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UNITED STATES DEPARTMENT OF LABOR
BUREAU OF LABOR STATISTICS

Vol. 35, No. 5 November, 1932

MONTHLY
LABOR REVIEW

SPECIAL FEATURES IN THIS ISSUE

Extent of 5-day week in American industry, 1932, p. 999

Hiring and separation methods in American factories, p. 1005

Labor productivity and displacement in the slaughtering and meat-packing industry, p. 1018

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Digest of material on technological changes and labor displacement, p. 1031

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Safety codes for the prevention of dust explosions. Bulletin No. 562.

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Union scales of wages and hours of labor, May 15, 1931. Bulletin No. 566.

IN PRESS

Wages and hours of labor in the manufacture of silk and rayon goods, 1931. Bulletin No. 568.

Labor legislation of Mexico. Bulletin No. 569.

Wages and hours of labor in the furniture industry, 1910 to 1931. Bulletin No. 571.

UNITED STATES DEPARTMENT OF LABOR
W. N. DOAK, Secretary
BUREAU OF LABOR STATISTICS
CHARLES E. BALDWIN, Acting Commissioner

MONTHLY
LABOR REVIEW

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This Issue in Brief

The 5-day week as a permanent policy is now in force in 5.4 per cent of the establishments, with 8.4 per cent of the employees, covered by a comprehensive survey just completed by the United States Bureau of Labor Statistics. In manufacturing industries these percentages are greater, 7.8 per cent of the reporting establishments having placed 12.3 per cent of their employees on a 5-day week schedule. The automobile industry has the largest proportion of employees on the 5-day week, namely 67.2 per cent. Details by industries, with comparisons with conditions in 1931, are given on page 999.

A study of hiring and separation methods in American manufacturing establishments has recently been completed by the Bureau of Labor Statistics. The study covered 224 establishments, having 387,826 employees, and dealt with such important questions as methods of recruiting labor; extent of physical examinations; fixing of maximum age limits in hiring new employees; use of intelligence, aptitude, and efficiency tests; methods used in selecting employees for retention when it was necessary to cut down the force; prevalence of separation or dismissal bonuses; and length of service of employees now on the pay rolls of companies cooperating with the bureau in the study. Page 1005.

A study of labor productivity in the killing departments of the slaughtering and meat-packing industry from 1914 to 1931 shows increases in man-hour output per animal handled ranging from 5.7 per cent in cattle killing to 61 per cent in sheep killing. Measured in terms of employment opportunities, these increases in output per man meant that in 1931 approximately 19.8 per cent fewer employees were necessary than would have been required on the basis of 1914 efficiency. Page 1018.

Increased output per man-hour in the construction of concrete roads, through the introduction of machinery and improved working methods, is shown in a study of such work in the State of Illinois made by the Bureau of Labor Statistics. Productivity per man-hour of the subgrading crew of a representative contractor was 115 per cent greater in 1930 than in 1919, and the productivity of the paving crew was 58.1 per cent greater in 1930 than in 1919. Page 1026.

A digest of the material on labor productivity and on the effects of technological changes on employment, published during the past several years by the Bureau of Labor Statistics, has been prepared for reference purposes. Page 1031.

Hourly earnings of workers in the hosiery industry early in 1932 averaged 49.4 cents for males and 29.2 cents for females, as compared with 70.7 cents for males and 36.6 cents for females in 1930, according to a survey by the Bureau of Labor Statistics of wages and hours of labor in the hosiery and underwear industries. In the underwear industry, average hourly earnings of males in 1932 were 40.8 cents and of females 26 cents, as compared with 45.8 cents and 33 cents,

respectively, in 1930. In 1932 full-time hours per week in the hosiery industry averaged 52.2 for males and 51.7 for females, and in the underwear industry, 51.1 for males and 50.6 for females. Full-time weekly working hours in the hosiery industry decreased slightly between 1930 and 1932, but in the underwear industry there was a slight increase. Page 1136.

Union wage rates per hour in the principal time-work trades averaged $1.111 in 1932 as compared with $1.254 in 1931. The annual survey by the Bureau of Labor Statistics of union scales of wages and hours of labor showed that in 11 of the 69 individual time-work trades studied average hourly wage rates were higher in 1932 than in 1931, in 1 trade the rate was the same, and in 57 there had been a decrease. Average full-time working hours per week decreased from 43.6 in 1931 to 42.9 in 1932. In the building trades, which had the shortest full-time working week, averaging 40.5 hours, more than four-fifths of the reported membership in 1932 had a regular working week of 5 days or less. Chauffeurs, teamsters, and drivers, with an average of 53.2 hours, had the longest working week. Page 1151.

The workmen's compensation laws of four States (Massachusetts, New Jersey, New York, and Virginia) and of six Canadian Provinces (Alberta, British Columbia, Manitoba, Ontario, Nova Scotia, and New Brunswick) were changed during the regular sessions of their legislatures in 1932. The changes were largely in the fields of coverage, procedure, and amounts payable for certain injuries, page 1088.

The net labor turnover rate for manufacturing as a whole for the third quarter of 1932 was 12.55, according to reports received by the Bureau of Labor Statistics from representative factories in 148 industries. Sawmills had the highest quit rate and foundries and machine shops, the lowest. The highest discharge rate occurred in slaughtering and meat packing and the lowest in iron and steel. The highest lay-off rate was shown by the automobile industry and the lowest by men's clothing. The highest accession rate occurred in cotton manufacture and the lowest in iron and steel. Page 1122.

The work of California's State camps for jobless men is described in a recent publication of the State unemployment commission. The first camp was opened December 31, 1931, and the other 29 were established as rapidly as possible thereafter. The men were furnished food, shelter, clothing, and tobacco in return for a maximum of six hours' work per day, including time spent going to and from the fire-hazard reduction and highway-construction undertakings upon which they were employed. Page 1066.

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U. S. BUREAU OF LABOR STATISTICS

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Extent of 5-Day Week in American Industry in 1932

THERE are presented below the results of two inquiries recently made by the Bureau of Labor Statistics regarding the extent to which the 5-day week has been permanently adopted in American industry. One of these inquiries was in the form of a questionnaire addressed to employers, covering the principal industries of the country, with the exception of the building trades and railroad transportation. The second inquiry was part of the regular annual survey of union scales of wages and hours of labor and was concerned solely with the 5-day week as adopted in collective agreements between employers and organized labor. The building trades were covered in the trade-union survey. Except in the case of the printing trades, there is very little, if any, overlapping in the results of the two inquiries.

I. General Survey of the 5-Day Week

THE information presented in Table 1 was secured as a result of questionnaires sent to the various establishments which cooperate with the bureau by furnishing monthly reports on employment and pay rolls. These questionnaires were answered by 44,025 establishments, having 3,848,349 employees, and representing 102 industries or industry groups. As a similar survey had been made by the bureau about a year earlier, covering substantially the same establishments, information is available for a comparison of conditions in 1931 and 1932. The number of establishments and employees covered in both of these surveys is believed to be sufficiently large to be fairly representative, with the exceptions above noted, of American industry as a whole.

The 1931 survey showed that 2.4 per cent of the establishments reporting had permanently adopted the 5-day week for all or a part of their employees, and that 5.6 per cent of the employees of the establishments had been placed on this 5-day-week schedule.

The 1932 survey showed a substantial increase in each of these items, the percentage of establishments operating on a 5-day-week basis for all or part of their employees having increased from 2.4 per cent in 1931 to 5.4 per cent in 1932, and the percentage of employees on a 5-day-week schedule having increased from 5.6 per cent in 1931 to 8.4 per cent in 1932.

For the manufacturing industries, the proportions of establishments and of employees on a 5-day week were considerably higher

than for all industries combined. Thus, in 1932, 7.8 per cent of the manufacturing establishments reporting had adopted the 5-day week for all or part of their working force, and 12.3 per cent of the employees of the establishments were employed on a 5-day-week basis.

It is to be emphasized that in both of the surveys referred to, establishments were listed as having the 5-day week only when such a working schedule had been adopted as a permanent policy. Establishments temporarily operating on a 5-day or shorter working week as a result of business conditions, but which had not adopted the 5-day week as a permanent policy, or were uncertain what their future policy would be, were not included in the 5-day week classification. Also, it is to be noted that this classification includes only persons working not more than 5 days per week and this does not include many cases of shortened hours of labor, as, for instance, when plants, operating continuously, have adopted a system of four 6-hour shifts, thus greatly reducing the weekly hours, although still operating on a 6 or even 7 day basis.

The 5-day-week schedule, as adopted by the establishments here listed, does not indicate uniformity as to the number of hours worked per week. In a number of cases, the hours of the former sixth day are spread, either in whole or in part, over the new schedule of 5 days. In other cases, the establishments are operating on a 6 or even 7 day basis, but have so arranged their schedules that the individual employees work only on 5 days of the week.

Reference to the table shows that the automobile industry has the greatest percentage of employees on the 5-day week, namely, 67.2 per cent in 1932. The chewing and smoking tobacco and snuff industry, with 40 per cent of its employees on the 5-day week, is second, followed by the druggists' preparations industry, with 39.9 per cent, and the electrical machinery, apparatus, and supplies industry, with 38.6 per cent.

TABLE 1.—NUMBER AND PER CENT OF ESTABLISHMENTS AND OF EMPLOYEES ON A PERMANENT 5-DAY WEEK BASIS IN THE THIRD QUARTER OF 1932, BY INDUSTRY

Industry	Number of establishments on—				Per cent of total number of establishments on—		Number of employees on—			Per cent of total force on 5-day week
	5-day week basis	Over 5-day week basis	Part 5 and part over 5-day week basis	Total	5-day week	Part 5 and part over 5-day week	5-day week basis	Over 5-day week basis	Total	
Manufacturing										
Agricultural implements	7	72	------	79	8.9	------	409	8,198	8,607	4.8
Aircraft	4	25	------	29	13.8	------	804	3,283	4,087	19.7
Aluminum manufacturers	2	16	------	18	11.1	------	204	4,208	4,412	4.6
Automobiles	136	134	6	276	49.3	2.2	111,585	54,545	166,130	67.2
Baking	10	827	11	848	1.2	1.3	5,772	65,093	70,865	8.1
Beet sugar	------	63	------	63	------	------	------	8,872	8,872	------
Beverages	6	249	5	260	2.3	1.9	489	10,448	10,937	4.5
Bolts, nuts, washers, and rivets	6	51	------	57	10.5	------	197	4,992	5,189	3.8
Brass, bronze, and copper products	6	177	------	183	3.3	------	879	22,435	23,314	3.8
Brick, tile, and terra cotta	19	539	2	560	3.4	.4	384	17,599	17,983	2.1

TABLE 1.—NUMBER AND PER CENT OF ESTABLISHMENTS AND OF EMPLOYEES ON A PERMANENT 5-DAY WEEK BASIS IN THE THIRD QUARTER OF 1932, BY INDUSTRY—Continued

Industry	Number of establishments on—				Per cent of total number of establishments on—		Number of employees on—			Per cent of total force on 5-day week
	5-day week basis	Over 5-day week basis	Part 5 and part over 5-day week basis	Total	5-day week	Part 5 and part over 5 day week	5-day week basis	Over 5-day week basis	Total	
Manufacturing—Continued										
Butter	1	289	------	290	.3	------	3	5,772	5,775	(1)
Carpets and rugs	4	21	------	25	16.0	------	1,518	12,447	13,965	10.9
Cars, electric and steam railroad	1	13	------	14	7.1	------	25	544	569	4.4
Cash registers, adding and calculating machines	6	37	1	44	13.6	2.3	897	8,943	9,840	9.1
Cast-iron pipe	2	25	1	28	7.1	3.6	625	4,192	4,817	13.0
Cement	1	137	1	139	.7	.7	516	14,666	15,182	3.4
Chemicals	12	82	7	101	11.9	6.9	2,945	11,250	14,195	20.7
Chewing and smoking tobacco and snuff	3	15	2	20	15.0	10.0	1,801	2,705	4,506	40.0
Cigars and cigarettes	15	174	3	192	7.8	1.6	974	36,615	37,589	2.6
Clocks, time-recording devices, and clock movements	5	14	------	19	26.3	------	581	4,430	5,011	11.6
Clothing, men's	36	309	7	352	10.2	2.0	6,429	47,457	53,886	11.9
Clothing, women's	35	173	20	228	15.4	8.8	3,185	14,745	17,930	17.8
Confectionery	5	353	1	359	1.4	.3	1,218	29,603	30,821	4.0
Corsets and allied garments	4	17	------	21	19.0	------	500	2,968	3,468	14.4
Cotton goods	12	357	13	382	3.1	3.4	5,054	128,482	133,536	3.8
Cotton, small wares	12	77	1	90	13.3	1.1	837	5,460	6,297	13.3
Cottonseed oil, cake, and meal	------	37	------	37	------	------	--------	795	795	------
Cutlery (not including silver and plated cutlery) and edge tools	13	88	1	102	12.7	1.0	450	7,646	8,096	5.6
Druggists' preparations	6	22	12	40	15.0	30.0	2,569	3,870	6,439	39.9
Dyeing and finishing textiles	9	110	4	123	7.3	3.3	2,944	28,848	31,792	9.3
Electric-railroad repair shops	2	263	2	267	.7	.7	251	19,607	19,858	1.3
Electrical machinery, apparatus, and supplies	74	187	6	267	27.7	2.2	42,258	67,150	109,408	38.6
Engines, turbines, tractors, and water wheels	9	54	------	63	14.3	------	2,564	10,053	12,617	20.3
Fertilizers	2	191	4	197	1.0	2.0	90	6,722	6,812	1.3
Flour	62	450	3	515	12.0	.6	1,962	14,185	16,147	12.2
Forgings, iron and steel	5	39	1	45	11.1	2.2	769	3,675	4,444	17.3
Foundry and machine-shop products	78	785	20	883	8.8	2.3	16,873	91,782	108,655	15.5
Furniture	19	370	4	393	4.8	1.0	1,274	38,251	39,525	3.2
Gas and electric fixtures, lamps, lanterns, and reflectors	1	41	------	42	2.4	------	97	4,717	4,814	2.0
Glass	1	152	4	157	.6	2.5	148	28,950	29,098	.5
Hardware	7	83	3	93	7.5	3.2	875	20,510	21,385	4.1
Hats, fur and felt	1	30	------	31	3.2	------	35	4,931	4,966	.7
Hosiery and knit goods	10	359	9	378	2.6	2.4	3,227	89,113	92,340	3.5
Ice cream	------	475	4	479	------	.8	29	18,113	18,142	.2
Iron and steel	2	284	4	290	.7	1.4	2,226	195,042	197,268	1.1
Jewelry	5	119	1	125	4.0	.8	271	8,246	8,517	3.2
Leather	2	118	1	121	1.7	.8	1,113	17,633	18,746	5.9
Leather, boots and shoes	44	410	1	455	9.7	.2	18,603	101,528	120,131	15.5
Locomotives	1	11	------	12	8.3	------	50	2,536	2,586	1.9
Lumber, millwork	5	386	12	403	1.2	3.0	803	16,351	17,154	4.7
Lumber, sawmills	4	535	3	542	.7	.6	402	49,292	49,694	.8
Machine tools	4	122	2	128	3.1	1.6	349	11,244	11,593	3.0
Marble, granite, slate, and other stone products	32	181	13	226	14.2	5.8	1,266	5,856	7,122	17.8
Men's furnishings	4	57	------	61	6.6	------	82	4,328	4,410	1.9
Millinery and lace goods	5	98	1	104	4.8	1.0	944	8,723	9,667	9.8
Paints and varnishes	20	540	9	569	3.5	1.6	2,279	16,214	18,493	12.3
Paper boxes	22	241	3	266	8.3	1.1	949	20,703	21,652	4.4
Paper and pulp	7	344	5	356	2.0	1.4	1,422	70,030	71,452	2.0
Petroleum refining	1	85	1	87	1.1	1.1	1,359	59,427	60,786	2.2
Plated ware	1	49	1	51	2.0	2.0	54	8,361	8,415	.6
Plumbers' supplies	7	57	1	65	10.8	1.5	696	11,943	12,639	5.5
Pottery	1	82	3	86	1.2	3.5	202	12,162	12,364	1.6

[1] Less than one-tenth of 1 per cent.

TABLE 1.—NUMBER AND PER CENT OF ESTABLISHMENTS AND OF EMPLOYEES ON A PERMANENT 5-DAY WEEK BASIS IN THE THIRD QUARTER OF 1932, BY INDUSTRY—Continued

Industry	Number of establishments on—				Per cent of total number of establishments on—		Number of employees on—			Per cent of total force on 5-day week
	5-day week basis	Over 5-day week basis	Part 5 and part over 5-day week basis	Total	5-day week	Part 5 and part over 5-day week	5-day week basis	Over 5-day week basis	Total	
Manufacturing—Continued										
Printing, book and job	27	513	18	558	4.8	3.2	2,901	40,429	43,330	6.7
Printing, newspapers and periodicals	3	384	8	395	.8	2.0	1,827	61,463	63,290	2.9
Radio	9	32	------	41	22.0	------	5,749	12,511	18,260	31.5
Rayon	------	17	------	17	------	------	------	17,826	17,826	------
Rubber boots and shoes	------	7	1	8	------	12.5	702	5,769	6,471	10.8
Rubber goods, other than boots, shoes, tires, and inner tubes	9	80	2	91	9.9	2.2	2,886	9,131	12,017	24.0
Rubber tires and inner tubes	4	26	2	32	12.5	6.3	3,646	31,456	35,102	10.4
Shipbuilding	1	67	1	69	1.4	1.4	291	15,696	15,987	1.8
Shirts and collars	7	95	3	105	6.7	2.9	819	13,230	14,049	5.8
Silk goods	6	202	3	211	2.8	1.4	1,386	35,875	37,261	3.7
Slaughtering and meat packing	1	195	2	198	.5	1.0	2,171	58,503	60,674	3.6
Smelting and refining, copper, lead, and zinc	------	21	1	22	------	4.5	11	5,452	5,463	.2
Soap	4	70	------	74	5.4	------	618	4,559	5,177	11.9
Stamped and enameled ware	8	64	1	73	11.0	1.4	1,869	8,733	10,602	17.6
Steam fittings and steam and hot-water heating apparatus	10	88	2	100	10.0	2.0	1,010	10,187	11,197	9.0
Steam-railroad repair shops	5	576	5	586	.9	.9	593	64,536	65,129	.9
Stoves	10	117	4	131	7.6	3.1	656	14,055	14,711	4.5
Structural-iron and ornamental work	13	158	1	172	7.6	.6	800	14,653	15,453	5.2
Sugar refining, cane	2	10	------	12	16.7	------	2,445	4,918	7,363	33.2
Textile machinery and parts	2	25	------	27	7.4	------	33	9,276	9,309	.4
Tin cans and other tinware	3	36	------	39	7.7	------	106	2,945	3,051	3.5
Tools (not including edge tools, machine tools, files, or saws)	12	88	------	100	12.0	------	651	4,682	5,333	12.2
Turpentine and rosin	2	14	------	16	12.5	------	151	868	1,019	14.8
Typewriters and supplies	2	69	1	72	2.8	1.4	75	6,809	6,884	1.1
Wirework	11	52	2	65	16.9	3.1	929	2,652	3,581	25.9
Woolen and worsted goods	15	136	4	155	9.7	2.6	4,952	37,631	42,583	11.6
All manufacturing—										
1932	982	14,843	280	16,105	6.1	1.7	294,593	2,102,334	2,396,927	12.3
1931	597	12,445	192	13,234	4.5	1.5	215,807	2,322,140	2,537,947	8.5
Miscellaneous										
Anthracite coal mining	------	60	------	60	------	------	------	23,295	23,295	------
Bituminous coal mining	8	1,060	------	1,068	.7	------	1,546	158,681	160,227	1.0
Canning and preserving	13	798	2	813	1.6	.2	1,605	80,671	82,276	2.0
Crude petroleum producing	1	605	7	613	.2	1.1	1,782	34,260	36,042	4.9
Dyeing and cleaning	------	625	6	631	------	1.0	78	9,165	9,243	.8
Electric railroad and motor-bus operation and maintenance	1	358	13	372	.3	3.5	379	82,755	83,134	.5
Hotels	2	1,753	------	1,755	.1	------	14	102,614	102,628	(1)
Laundries	59	628	44	731	8.1	6.0	4,121	38,838	42,959	9.6
Metalliferous mining	1	170	------	171	.6	------	25	20,583	20,608	.1
Power, light, and water	44	2,244	138	2,426	1.8	5.7	1,427	182,904	184,331	.8
Quarrying and nonmetallic mining	28	682	4	714	3.9	.6	1,360	21,680	23,040	5.9
Retail trade	15	13,993	552	14,560	.1	3.8	15,603	300,576	316,179	4.9
Telephone and telegraph	------	1,261	------	1,261	------	------	------	296,374	296,374	------
Wholesale trade	16	2,608	121	2,745	.6	4.4	2,303	68,783	71,086	3.2
Grand total—										
1932	1,170	41,688	1,167	44,025	2.7	2.7	324,836	3,523,513	3,848,349	8.4
1931	673	36,680	234	37,587	1.8	.6	221,587	3,720,205	3,941,792	5.6

[1] Less than one-tenth of 1 per cent.

2. The 5-Day Week Among Trade-Unions

A SUMMARY of the annual survey of union wage rates and hours of labor in the time-work trades in 67 cities, made by the Bureau of Labor Statistics as of May, 1932, appears on page 1151 of this issue. The canvass embraced a total union membership of 595,367.

As a part of the study, data were collected relative to the regular working-days per week provided in the agreements under which the membership was working. The agreement for a permanent basic 5-day week was found widespread in the building trades and to quite an extent in several of the other trades canvassed. In a few instances the agreement was that the provision for a week of five days, or even less, was temporary in character, running for a fixed period or indefinitely until further agreement. Some of the curtailment of working hours reported, especially those for less than five days a week, was made to spread work among the members. The figures here presented are in accordance with the provision under which the members were working, including those in which the provisions for working time are more or less temporary. In other words, the percentage given is not to be assumed as indicating in every instance a permanent status.

Of the full membership reported, 56 per cent had a recognized working week of 5 days or less, a small fraction of 1 per cent had a 5-day week or less for one-half of a year but less than a full year, and 3.1 per cent had a 5-day week for some part of the year less than one-half.

TABLE 2.—PER CENT OF MEMBERS OF CERTAIN TRADE-UNIONS HAVING A WORKING WEEK OF 5 DAYS OR LESS, UNDER AGREEMENTS IN FORCE IN MAY, 1932

Occupation	Per cent of members having a week of 5 days or less		
	Whole year	Half year or more	Less than half year
Building trades			
Asbestos workers	82.0	0.9	5.8
Bricklayers	93.5	----------	.8
Sewer, tunnel, and caisson	85.8	----------	.6
Building labor group:			
Building laborers	53.0	----------	.1
Hod carriers	90.8	----------	.2
Plasterers' laborers	79.2	----------	1.2
Plumbers' laborers	97.1	----------	----------
Carpenters	83.1	----------	6.0
Millwrights	53.6	----------	1.5
Parquetry floor layers	87.4	----------	2.1
Wharf and bridge	79.4	----------	7.7
Ship	68.1	----------	18.4
Cement finishers	71.4	----------	----------
Composition roofers	88.6	----------	5.9
Composition roofers' helpers	79.7	----------	----------
Elevator constructors	65.7	----------	1.7
Elevator constructors' helpers	68.6	----------	2.3
Engineers, portable and hoisting	73.2	----------	----------
Glaziers	82.9	----------	2.9
Inside wiremen	91.2	----------	----------
Fixture hangers	72.6	----------	----------
Lathers	93.7	----------	----------
Marble setters	88.1	----------	.5
Marble setters' helpers	86.6	----------	10.0
Mosaic and terrazzo workers	93.0	----------	1.2
Painters	93.8	----------	2.9
Fresco	62.3	----------	36.2
Sign	72.8	----------	----------
Plasterers	93.0	----------	----------
Plumbers and gas fitters	88.1	----------	----------
Sheet-metal workers	88.5	----------	----------
Slate and tile roofers	83.5	----------	.7
Steam and sprinkler fitters	93.7	----------	----------
Steam and sprinkler fitters' helpers	96.5	----------	----------

TABLE 2.—PER CENT OF MEMBERS OF CERTAIN TRADE-UNIONS HAVING A WORKING WEEK OF 5 DAYS OR LESS, UNDER AGREEMENTS IN FORCE IN MAY, 1932—Continued

Occupation	Per cent of members having a week of 5 days or less		
	Whole year	Half year or more	Less than half year
Building trades—Continued			
Stone masons	92.9		0.1
Structural-iron workers	81.0		
Finishers	88.0		
Tile layers	94.1		1.0
Tile layers' helpers	87.6		5.7
Miscellaneous			
Chauffeurs	.7		
Granite cutters	64.5	10.4	14.0
Linemen	39.2		
Stone cutters	68.6		
Printing and publishing, book and job			
Compositors	1.9		17.9
Machine operators	.6		25.8
Machine tenders (machinists)	.4		11.9
Photo-engravers	28.7		57.7
Press assistants and feeders	25.2		
Pressmen, cylinder	31.6		
Pressmen, platen	8.4		
Printing and publishing, newspaper			
Compositors, hand, day	10.2		
Compositors, hand, night	17.5		
Machine operators, day	18.0		
Machine operators, night	30.5		
Machine tenders (machinists), day	34.9		
Machine tenders (machinists), night	50.6		
Photo-engravers, day	1.1		2.6
Photo-engravers, night	2.5		
Pressmen, web, day	6.7		
Pressmen, web, night	6.5		
All trades combined	56.0	(1)	3.1

[1] Less than one-tenth of 1 per cent.

Hiring and Separation Methods in American Factories

THE Bureau of Labor Statistics has recently completed a survey of the employment methods in use in a group of representative manufacturing establishments. The inquiry covered such important questions as the methods of recruiting labor, the use of physical examinations, and the fixing of maximum age limits in hiring new employees. The survey was limited primarily to ascertaining to what extent various employment and personnel methods were in use, and did not attempt a descriptive or critical analysis of these methods.

The inquiry covered 224 establishments having a total of 387,826 employees, the industries represented being as follows: Automobiles, bakeries, boots and shoes, brick, cement, chemicals, cigars and cigarettes, confectionery, cotton, electrical manufacturing, foundries and machine shops, furniture, glassware, hosiery and underwear, iron and steel, men's clothing, men's hats, oil refining, paper boxes, printing and publishing, railroad cars, rubber tires, sawmills, sewing machines, silk manufacturing, slaughtering and meat packing, steam fittings, stoves, sugar refining, and woolens and worsteds. Because of the limited number of establishments covered in certain of these industries, and in order to avoid possible identification of individual establishments, the data here presented are assembled into 10 industry groups.

The information was obtained by personal visits of agents of the bureau, partly through interviews with officials of the companies concerned and partly from the records of the personnel departments where such existed.

Table 1 shows, by industry groups, the number of establishments scheduled and the number and per cent of male and female employees in such establishments.

As shown in the table, the percentage of male employees differs materially in the different industry groups. In petroleum refining 98.5 per cent of all employees were males, while in the clothing industry only 41.8 per cent were males. The only industry besides clothing which employed more women than men was the textile industry in the North, in which 50.7 per cent of all employees were women. In the South 42.4 per cent of all employees in the textile industry were women.

TABLE 1.—NUMBER AND PER CENT OF MALE AND FEMALE EMPLOYEES IN 224 SELECTED ESTABLISHMENTS, BY INDUSTRY GROUPS

Industry group	Number of establishments	Employees				
		Male		Female		Total
		Number	Per cent	Number	Per cent	
Automobiles and parts	11	46,995	94.1	2,960	5.9	49,955
Clothing	13	5,915	41.8	8,240	58.2	14,155
Food products	23	22,390	83.3	4,490	16.7	26,880
Iron and steel and their products	45	107,911	92.0	9,435	8.0	117,346
Lumber and its products	20	9,707	96.0	407	4.0	10,114
Miscellaneous	41	49,972	75.8	15,912	24.2	65,884
Petroleum refining	9	18,590	98.5	281	1.5	18,871
Boots and shoes	15	20,180	66.0	12,654	34.0	32,834
Textiles—North	19	12,191	49.3	12,552	50.7	24,743
Textiles—South	28	15,586	57.6	11,458	42.4	27,044
Total	224	309,437	79.8	78,389	20.2	387,826

Plant Employment Offices

As SHOWN in Table 2, 146, or 65.2 per cent, of the 224 establishments visited had a central employment office, i. e., a central office which hired for all departments of the plant. The other 78 plants had no such office, and in these plants labor was hired directly by the foremen and superintendents. The percentage of plants having central employment offices varies greatly in the different industry groups. In the automobile industry, for instance, all the plants visited had a central employment office, while in contrast thereto in the textile industry in the South only 17.9 per cent had such offices. More than 80 per cent of the plants visited in the iron and steel, petroleum refining, and food products groups had central employment offices.

In most of the plants which had a central employment office the employment manager or personnel director had full power to hire employees. In a few plants, however, while it was necessary for men seeking jobs to do so through the employment office, this was merely for the purpose of an interview, such office sending them to the various foremen who had sent in a request for help, and the latter doing the actual hiring.

In a few cases in the South, the firms visited did not then have central employment offices, but had had such departments in the past and had discontinued them. It was reported that this had been done primarily because of the antagonism of the foremen, who felt that their powers were being usurped. In other cases it was also said that employees who for years had been accustomed to dealing directly with the foremen did not take kindly to the central employment office plan.

TABLE 2.—NUMBER AND PER CENT OF FIRMS HAVING CENTRAL EMPLOYMENT OFFICES, BY INDUSTRIES

Industry	Number of establishments	Establishments with central employment offices		Establishments without central employment offices	
		Number	Per cent	Number	Per cent
Automobiles and parts	11	11	100.0		
Clothing	13	6	46.2	7	53.8
Food products	23	19	82.6	4	17.4
Iron and steel and their products	45	41	91.1	4	8.9
Lumber and its products	20	12	60.0	8	40.0
Miscellaneous	41	29	70.7	12	29.3
Petroleum refining	9	8	88.9	1	11.1
Boots and shoes	15	3	20.0	12	80.0
Textiles—North	19	12	63.2	7	36.8
Textiles—South	28	5	17.9	23	82.1
Total	224	146	65.2	78	34.8

Methods of Recruiting Labor

OF THE 224 firms visited, 68 used public or private employment agencies at least part of the time in recruiting labor. Twenty-seven of the 68 firms used public employment agencies only, i. e., agencies maintained from public funds, either Federal, State, or municipal; 15 used private employment agencies only, and the remaining 26 used both public and private agencies. Twenty-six firms made use of the newly established employment service of the United States Department of Labor, 39 used State agencies, and 32 used municipal agencies. Very

few of the firms using employment agencies depended entirely on this method for recruiting labor.

One hundred and fifty-six firms recruited their labor without the help of any established employment agencies, the majority of them hiring through applications on file in their offices, while some hired through labor unions, some used newspapers, and some obtained new employees through the medium of their regular employees. As an example of this latter method, the employees in one firm are given blank cards which they fill out and give to their friends, who then take these cards (called recommendations) to the employment office for an interview. If his friends are hired, the employee is notified and receives a personal letter directing him to make them feel at home and get them started right in their work.

The men's clothing industry, where unionized, hires practically all labor through local unions.

During the period of depression many firms made arrangements with local charitable organizations to use, wherever possible, local people recommended by such agencies.

Physical Examinations

Of the 224 plants visited in this study, 114, or 50.9 per cent, required a physical examination of all prospective employees, and in 8 establishments, or 3.6 per cent, such examinations were in use for part of the employees, while in the remaining 102 plants, or 45.5 per cent, no physical examinations were required.

All the plants in the petroleum-refining industry visited provided for the physical examination of all employees, while in the iron and steel industry, 82.2 per cent of all plants had such examinations for all employees, and 4.4 per cent for a part of the employees. In contrast thereto, only 13.3 per cent of the boot and shoe plants visited required physical examinations for all employees, and in the textile industry in the South, 82.1 per cent of the plants visited had no system of physical examinations of any kind.

The examinations differed considerably in strictness and varied with the requirements of the positions to be filled. For the most part, causes for rejection were infectious and contagious diseases, hernia, bad varicose veins, and heart disease. In most establishments, prospective employees with bad eyesight were required to have their vision corrected by glasses.

Some establishments have reexaminations at stated periods. A number of establishments have their own hospitals where employees are examined and given medical service at a much lower cost than would be possible otherwise. Many firms required vaccination against smallpox, and if the applicants could not show that they had been recently vaccinated the company's doctor vaccinated them.

Two plants were found that required no physical examinations before employment, but did require prospective employees to be up to a certain physical standard if they wished to belong to an employees' benefit association. If a man failed to pass the required physical test, he might be hired even though he could not belong to the benefit association.

A few plants had set up an exceptionally high standard of physical requirements for employees, demanding a very rigid physical examination of the applicant and including questions as to the personal habits and past medical history of both the applicant and his family.

TABLE 3.—NUMBER AND PER CENT OF ESTABLISHMENTS REQUIRING PHYSICAL EXAMINATIONS, BY INDUSTRIES

Industry	Establishments requiring physical examinations for—				Establishments requiring no physical examinations		Total
	All employees		Part of employees				
	Number	Per cent	Number	Per cent	Number	Per cent	
Automobiles and parts	7	63.6	1	9.1	3	27.3	11
Clothing	3	23.1	0	----	10	76.9	13
Food products	14	60.9	0	----	9	39.1	23
Iron and steel and their products	37	82.2	2	4.4	6	13.3	45
Lumber and its products	10	50.0	0	----	10	50.0	20
Miscellaneous	23	56.1	2	4.9	16	39.0	41
Petroleum refining	9	100.0	0	----	0	----	9
Boots and shoes	2	13.3	1	6.7	12	80.0	15
Textiles—North	5	26.3	1	5.3	13	68.4	19
Textiles—South	4	14.3	1	3.6	23	82.1	28
Total	114	50.9	8	3.6	102	45.5	224

Intelligence, Aptitude, and Efficiency Tests

ONLY 14, or 6.3 per cent, of the plants visited had adopted any kind of intelligence, aptitude, or efficiency tests. Some of these tests were very simple, while others were quite elaborate. One firm required that all employees must be able to read the English language, while two publishing firms had a test in arithmetic, spelling, and geography, which was given to all men seeking jobs in the composing room. One furniture firm required a mechanical efficiency test for cabinetmakers. One employment manager stated that tests were given only to those who, it was thought, would be trained for executive or supervisory positions, and that use is made of the Otis test, the O'Connor number and checking test, Kent and Rosonoff's word association test, and mechanical aptitude tests, such as the Wiggley block test. A New England company requires intelligence tests for all applicants seeking positions in the office, and an aptitude test, such as a card-dropping test which is scored for both accuracy and speed, for jobs in the factory. For certain positions this company also requires a finger dexterity test, i. e., putting pegs in holes both by hands and with tweezers. The aptitude test, the company reports, has been of great benefit, and though at the present time it is required for certain positions only, the firm expects to extend the test to all positions in the factory. Some establishments require aptitude tests only for positions where employees handle expensive material which might be ruined through lack of skill.

All firms which had adopted intelligence and efficiency tests stated that the results have justified their use.

TABLE 4.—NUMBER OF ESTABLISHMENTS REQUIRING INTELLIGENCE, APTITUDE, OR EFFICIENCY TESTS, BY INDUSTRIES

Industry	Number of establishments			Industry	Number of establishments		
	Using tests	Not using tests	Total		Using tests	Not using tests	Total
Automobiles and parts	1	10	11	Petroleum refining	1	8	9
Clothing	0	13	13	Boots and shoes	1	14	15
Food products	0	23	23	Textiles—North	1	18	19
Iron and steel and their products	1	44	45	Textiles—South	0	28	28
Lumber and its products	1	19	20	Total	14	210	224
Miscellaneous	8	33	41	Per cent of total	6.3	93.7	100.0

Age Limit for Hiring

A MAXIMUM age limit beyond which no employees were hired had been adopted by 71, or 31.7 per cent, of the plants visited. As shown in Table 5, these 71 plants had a total of 108,475 employees on their pay rolls, which was 28.0 per cent of the total number of employees in all plants. Four of the plants had a maximum age limit under 40; in 41 plants it was between 40 and 46, and in 26 plants, 46 or over. The other 153 plants stated that they had no definite maximum hiring age, but in practically all of these plants employment managers stated that the requirements for the job determined the age policy, and in most cases they admitted that not many men over 50 would be hired, except in cases requiring specially skilled employees where it would be impossible to secure young men.

Nearly 80 per cent of the petroleum-refining plants visited had a maximum age limit for hiring. In contrast thereto, only 9.1 per cent of the automobile plants had such a restriction.

Various reasons were given for the adoption of a maximum hiring limit. A number of firms stated that group insurance rates were higher when older employees were hired. Some felt that the older men could not meet the standards of production required. One company stated that it trained all its own employees, never finding it necessary to hire skilled employees from the outside, and gave the opinion that it would be a reflection on the company's management if it could not develop its own skilled employees. Many firms which did have a maximum hiring age for most of the plant hire older workers for such jobs as sweepers and watchmen. In southern cotton mills another factor caused older men to be given jobs. There the family is very often the hiring unit, and if an older worker has several children who are cotton spinners, doffers, weavers, etc., and employees are needed in such jobs, the man will be hired regardless of his age, in order to obtain the services of the other members of his family, but is usually given a sweeper's or a watchman's job.

Many of the companies which had not definitely adopted a set maximum hiring age limit stated that there was a decided tendency against hiring older men. As one company's executive stated, there is a big enough problem to take care of the men who have grown old with the company without hiring more old men. He stated, however, that in his plant there was no set rule as to age and that he would hire

an older man who had had experience, provided no younger men applied for the job.

Whenever a pension plan had been adopted by a firm there was invariably a maximum hiring age.

A few plants had extremely low maximum age limits for some positions. In one plant, for instance, requiring a specially skilled operator, no applicant over 22 years of age would be hired for this job. The company trained its own workers and stated that it was difficult to teach anybody over this age to do this particular work.

TABLE 5.—NUMBER AND PER CENT OF ESTABLISHMENTS AND OF EMPLOYEES THEREIN WHICH HAVE A MAXIMUM HIRING AGE, BY INDUSTRIES

Industry	Establishments—					Employees in establishments—					Number of establishments in which age limit for employment is—		
	Having maximum age limit for hiring		Not having maximum age limit for hiring		Total	Having maximum age limit for hiring		Not having maximum age limit for hiring		Total	Under 40	40 and under 46	46 and over
	Number	Per cent	Number	Per cent		Number	Per cent	Number	Per cent				
Automobiles and parts	1	9.1	10	90.9	11	1,087	2.2	48,868	97.8	49,955	0	0	1
Clothing	6	46.2	7	53.8	13	7,487	52.9	6,668	47.1	14,155	0	2	4
Food products	6	26.1	17	73.9	23	6,050	22.5	20,830	77.5	26,880	1	3	2
Iron and steel and their products	21	46.7	24	53.3	45	37,888	32.3	79,458	67.7	117,346	0	14	7
Lumber and its products	4	20.0	16	80.0	20	2,525	25.0	7,589	75.0	10,114	0	2	2
Miscellaneous	10	24.4	31	75.6	41	17,321	26.3	48,563	73.7	65,884	1	7	2
Petroleum refining	7	77.8	2	22.2	9	12,786	67.8	6,085	32.2	18,871	0	[1] 7	0
Boots and shoes	5	33.3	10	66.7	15	8,291	25.3	24,543	74.7	32,834	1	2	2
Textiles—North	4	21.1	15	78.9	19	8,949	36.2	15,794	63.8	24,743	1	1	2
Textiles—South	7	25.0	21	75.0	28	6,091	22.5	20,953	77.5	27,044	0	3	4
Total	71	31.7	153	68.3	224	108,475	28.0	279,351	72.0	387,826	4	41	26

[1] 35 years for women in 1 case; 45 years for men who form majority of employees.

Separation Methods

TABLE 6 shows the number of firms that record reasons for employees quitting their jobs and the number that attempt to adjust difficulties and retain employees. It was found that 166, or 74.1 per cent, of the 224 plants visited had some sort of an interview with an employee when he quit, and obtained from him, if possible, the reason for his leaving.

There was a wide variance in the different industries as to the use of the exit interview. All petroleum-refining plants scheduled recorded the reasons for leaving, while in the textile industry in the South only 50 per cent of the plants used the exit interview.

Of the 224 plants, 167 made some attempt to adjust difficulties and retain employees. In petroleum refining, 8 of the 9 plants visited made some attempt to straighten out any complaints that an efficient employee might have which would cause him to quit. In southern textile mills, however, only 10 of the 28 plants attempted thus to adjust difficulties with employees.

A number of establishments had a "works council"; that is, a body representing both the employees and the employer, the employees'

representatives being elected by themselves. In plants having this system, whenever a grievance occurred that could not be settled by the foreman and the employee, the works council reviewed and decided the case. The decision in most cases, however, was not binding, being only a recommendation to the management.

Some companies stated that in the case of trouble between a good worker and the foreman they would transfer the employee to another department. Many others, however, stated that if it were impossible to smooth out the difficulties between the foreman and his employee, the employee would be allowed to quit regardless of his efficiency, as it was believed that a transfer to another department under these circumstances would break down the morale of the department from which the man was allowed to transfer. A few plants stated they made no attempt to keep any man who wished to resign, no matter for what reason, the management feeling that if a man wants to quit it is best that he should go, as otherwise he would consider himself too important, and this would hurt the morale of the other workers with whom he was associated. Plants in some sections of the country, especially in the South, seem to be troubled very little by quits of any description. Several plants in that section stated that they seldom had a man quit his job, the only resignations being for short periods and these were leaves of absence rather than quits. An employee would leave to do planting on his farm, returning to his job after a month or so, and at harvest time he would quit again for a short time.

TABLE 6.—NUMBER OF ESTABLISHMENTS RECORDING REASONS FOR LEAVING JOBS AND NUMBER MAKING AN ATTEMPT TO ADJUST DIFFICULTIES AND RETAIN EMPLOYEES, BY INDUSTRIES

Industry	Number of establishments that—				
	Record reasons for leaving	Do not record reasons for leaving	Make an attempt to adjust difficulties	Do not make an attempt to adjust difficulties	Total
Automobiles and parts	10	1	10	1	11
Clothing	7	6	9	4	13
Food products	17	6	18	5	23
Iron and steel and their products	42	3	42	3	45
Lumber and its products	13	7	11	9	20
Miscellaneous	30	11	35	6	41
Petroleum refining	9	0	8	1	9
Boots and shoes	10	5	9	6	15
Textiles—North	14	5	15	4	19
Textiles—South	14	14	10	18	28
Total	166	58	167	57	224
Per cent of total	74.1	25.9	74.6	25.4	100.0

Table 7 shows the number and per cent of establishments in which the power to discharge is vested in the foreman, employment manager, or higher official. In 96, or 42.9 per cent, of the plants included in this study the foreman had the right to discharge employees without review by higher authority; in 49 plants, comprising 21.9 per cent of the whole number, the right to discharge was vested in the employment manager; and in the other 79 plants, before an employee could be discharged his case had to be reviewed by higher officials of the company. Most of the plants in which the foreman had the right to discharge stated that unless this policy were followed the

workers lost respect for the foreman's authority and consequently were less efficient. In plants where the foreman could discharge a man and his actions were subject to review by higher authority it was stated that although in most cases the foreman's decision was upheld, the fact that his action was reviewed undoubtedly kept the discharge rate down.

In southern textile mills 78.6 per cent of the plants allowed the foreman to discharge workers without seeking the approval of higher authority. In the petroleum-refining plants scheduled, no foremen had the right to discharge.

TABLE 7.—NUMBER AND PER CENT OF ESTABLISHMENTS IN WHICH THE POWER TO DISCHARGE IS VESTED IN FOREMAN, EMPLOYMENT MANAGER, OR OTHER EXECUTIVE, BY INDUSTRIES

Industry	Establishments in which discharge is made by—						Total establishments
	Foremen		Employment managers		Higher officials		
	Number	Per cent	Number	Per cent	Number	Per cent	
Automobiles and parts	3	27.3	6	54.5	2	18.2	11
Clothing	3	23.1	4	30.8	6	46.2	13
Food products	10	43.5	3	13.0	10	43.5	23
Iron and steel and their products	14	31.1	13	28.9	18	40.0	45
Lumber and its products	13	65.0	3	15.0	4	20.0	20
Miscellaneous	14	34.1	10	24.4	17	41.5	41
Petroleum refining	0	0	2	22.2	7	77.8	9
Boots and shoes	9	60.0	2	13.3	4	26.7	15
Textiles—North	8	42.1	4	21.1	7	36.8	19
Textiles—South	22	78.6	2	7.1	4	14.3	28
Total	96	42.9	49	21.9	79	35.3	224

Table 8 shows the basis on which employees are selected for retention when it is necessary to lay off men. In 116 firms, or 51.8 per cent of the total, it was stated that retention was based solely on efficiency; 41 plants, or 18.3 per cent, stated that seniority was the governing factor in retaining employees; and 46 firms, or 20.5 per cent, stated that the family responsibility of the worker was given primary consideration.

Some employers stated that, efficiency being equal, they gave preference to employees who lived in the town in which the plant was located. Several establishments stated that employees were rarely laid off; that when work was slack it was divided among the employees, thus giving work to all men on the pay rolls. This plan was found to be particularly prevalent in the men's clothing industry.

In southern cotton mills, families residing in the same village were given preference, and a great effort was made to keep at least one member in the family at work at all times. In petroleum refining, efficiency was given as the dominant factor in retention, while in the iron and steel industry, although efficiency was reported as the major factor, stress was also laid on seniority. In the textile mills of the South, family responsibility was given as the prevailing factor.

TABLE 8.—NUMBER AND PER CENT OF ESTABLISHMENTS WITH SPECIFIED LAY-OFF POLICY, BY INDUSTRIES

Industry	Number of establishments in which retention is based on—				
	Efficiency	Seniority	Family responsibility	Other factors	Total
Automobiles and parts	2	4	5	0	11
Clothing	6	3	0	4	13
Food products	15	6	1	1	23
Iron and steel and their products	23	13	6	3	45
Lumber and its products	8	3	7	2	20
Miscellaneous	26	5	4	6	41
Petroleum refining	7	0	1	1	9
Boots and shoes	11	2	2	0	15
Textiles—North	10	3	2	4	19
Textiles—South	8	2	18	0	28
Total	116	41	46	21	224
Per cent of total	51.8	18.3	20.5	9.4	100.0

Separation or Dismissal Bonuses

TABLE 9 shows that 8 per cent of the plants included in this study paid some sort of separation wage to men who were laid off through no fault of their own and that these plants had 15 per cent of the total number of employees on their pay rolls.

The amount of the dismissal wage reported varied greatly. One establishment gave a month's pay to all employees with service of from 3 to 5 years, 2 months' pay for service of from 5 to 10 years, and 3 months' pay for service of over 10 years. Another gave no bonus to unskilled workers but gave 2 weeks' pay to all skilled workers regardless of length of service. For every two years of service to employees who had been with the company 20 years or more and were 60 years of age or over, one plant gave a week's pay; another plant had no set policy but gave a cash bonus to all employees laid off who had been on the pay roll at least 5 years, the amount being governed by the length of service, the efficiency with which he had performed his work, and his family responsibilities. In one establishment 4 weeks' pay was given to all employees who had been in its service 10 years, and an extra week's pay for each additional year. Another establishment granted 1 week's pay to employees who had been in its service between 2 and 5 years, 2 weeks' pay to those between 5 and 8 years, 3 weeks' pay to those between 8 and 10 years, and at least a month's pay to those with 10 years' service and over, while another company gave 1 week's pay for each year of service over 3.

In addition to the plants which gave a cash bonus of some sort, several southern cotton mills granted free house rent and electric light to employees who had been laid off for an indefinite period and some also gave free house rent to employees working three days a week or less.

TABLE 9.—NUMBER OF ESTABLISHMENTS PAYING A SEPARATION BONUS AND NUMBER OF EMPLOYEES THEREOF, BY INDUSTRIES

Industry	Establishments paying separation bonus		Establishments not paying separation bonus		Total	
	Number	Number of employees	Number	Number of employees	Number of establishments	Number of employees
Automobiles and parts	0	0	11	49,955	11	49,955
Clothing	0	0	13	14,155	13	14,155
Food products	1	4,045	22	22,835	23	26,880
Iron and steel and their products	4	28,912	41	88,434	45	117,346
Lumber and its products	0	0	20	10,114	20	10,114
Miscellaneous	7	17,331	34	48,553	41	65,884
Petroleum refining	2	5,109	7	13,762	9	18,871
Boots and shoes	0	0	15	32,834	15	32,834
Textiles—North	1	222	18	24,521	19	24,743
Textiles—South	3	2,454	25	24,590	28	27,044
Total	18	58,073	206	329,753	224	387,826
Per cent of total	8.0	15.0	92.0	85.0	100.0	100.0

Finding New Positions for Employees Laid Off

OF THE plants scheduled, 78, or 34.8 per cent, attempted to find positions for men who were laid off through no fault of their own. Some of these firms limited their attempts to other establishments in their own organizations; others sought to find positions with other companies in the community.

In Bridgeport, Conn., there is an employment managers' association, whose object is to promote cooperation among the different employment managers in the problem of placing men who are laid off. At the end of each week the managers submit a list of their requirements for the week. If a particular plant is laying off men, the employment manager can look at the list of requirements for other plants and direct his employees to call at these plants. Similar organizations were found in other cities.

TABLE 10.—NUMBER OF ESTABLISHMENTS ATTEMPTING TO FIND JOBS FOR EMPLOYEES LAID OF, BY INDUSTRIES

Industry	Number of establishments—			Industry	Number of establishments—		
	Attempting to find jobs	Not attempting to find jobs	Total		Attempting to find jobs	Not attempting to find jobs	Total
Automobiles and parts	6	5	11	Petroleum refining	5	4	9
Clothing	2	11	13	Boots and shoes	4	11	15
Food products	3	20	23	Textiles—North	5	14	19
Iron and steel and their products	22	23	45	Textiles—South	7	21	28
Lumber and its products	6	14	20	Total	78	146	224
Miscellaneous	18	23	41	Per cent of total	34.8	65.2	100.0

Turnover and Length of Service

FOR 93 of the plants covered by the survey, data were obtained regarding the length of service of employees who had been separated from the pay roll during the year 1930. These data, analyzed by

cause of separation and by length of service, are presented in Table 11. These firms had an average of 194,042 employees on their pay rolls during 1930. During that year 102,703 employees were separated from the pay rolls of these 93 companies. Of this number, 34,029 quit, 7,624 were discharged, and 61,050 were laid off.

The total separation rate for these companies was 52.9; the quit rate was 17.5, the discharge rate 3.9, and the lay-off rate 31.5. Of the 34,029 employees who quit during 1930, 11,485 or more than one-third, had been on the pay rolls less than 3 months, while only 4,445 employees who had been in the service of the company 5 years or more quit. Of the total number discharged during the year, more than one-third had worked for the company less than 3 months. Over 61,000 men were laid off during 1930 by these 93 firms. Of this number, 19,966, or 10.3 per cent of the total number employed, had been on the pay rolls less than 3 months, and only 3,122, or 1.6 per cent of such total, for longer than 5 years.

There was a marked difference in the total separation rate in the different industries. The lowest total separation rate, 10.5 per cent, occurred in the petroleum-refining industry, and the highest, 197.2, in the automobile industry. Automobiles also had the highest quit rate, 31.1, while the lowest quit rate, 7.8, was registered in petroleum refining. The highest discharge rate, 7.9, occurred in southern textile mills, and the lowest, 1.6, in lumber manufacturing. The highest lay-off rate, 160.1, was shown in the automobile industry, and the lowest, one-tenth of 1 per cent, in petroleum refining.

TABLE 11.—NUMBER AND PER CENT OF EMPLOYEES SEPARATED FROM PAY ROLLS IN 93 MANUFACTURING ESTABLISHMENTS, BY INDUSTRY, CAUSE OF SEPARATION, AND LENGTH OF SERVICE, 1930

Industry, average number of employees in 1930, and cause of separation	Employees separated from pay roll during 1930, with service of—													
	Under 3 months		3 and under 6 months		6 months and under 1 year		1 year and under 2 years		2 and under 5 years		5 years and over		Total	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Automobiles and parts (14,196 employees):														
Quits	2,262	15.9	669	4.7	585	4.1	452	3.2	343	2.4	100	0.7	4,411	31.1
Discharges	613	4.3	88	.6	55	.4	43	.3	37	.3	24	.2	860	6.1
Lay-offs	11,053	77.9	3,181	22.4	3,857	27.2	2,107	14.8	2,105	14.8	426	3.0	22,729	160.1
Total	13,928	98.1	3,938	27.7	4,497	31.7	2,602	18.3	2,485	17.5	550	3.9	28,000	197.2
Clothing (5,820 employees):														
Quits	42	.7	8	.1	13	.2	42	.7	233	4.0	180	3.1	518	8.9
Discharges	19	.3	5	.1	9	.2	23	.4	60	1.0	60	1.0	176	3.0
Lay-offs	12	.2	26	.4	19	.3	14	.2	78	1.3	65	1.1	214	3.7
Total	73	1.3	39	.6	41	.7	79	1.4	371	6.4	305	5.2	908	15.6
Food products (17,959 employees):														
Quits	1,851	10.3	555	3.1	499	2.8	363	2.0	429	2.4	377	2.1	4,074	22.7
Discharges	226	1.2	65	.4	75	.4	75	.4	71	.4	43	.2	555	3.1
Lay-offs	4,014	22.4	1,051	5.9	562	3.1	233	1.3	216	1.2	94	.5	6,170	34.4
Total	6,091	33.9	1,671	9.3	1,136	6.3	671	3.7	716	4.0	514	2.9	10,799	60.1
Iron and steel and their products (82,334 employees):														
Quits	1,781	2.2	1,316	1.6	1,777	2.2	2,119	2.6	1,449	1.8	1,785	2.2	10,227	12.4
Discharges	486	.6	527	.6	758	.9	542	.7	320	.4	220	.3	2,853	3.5
Lay-offs	1,849	2.2	2,752	3.3	5,055	6.1	5,986	7.3	3,032	3.7	1,111	1.3	19,785	24.0
Total	4,116	5.0	4,595	5.6	7,590	9.2	8,647	10.5	4,801	5.8	3,116	3.8	32,865	39.9
Lumber and its products (5,132 employees):														
Quits	280	5.5	93	1.8	144	2.8	146	2.8	124	2.4	134	2.6	921	17.9
Discharges	27	.5	12	.2	8	.2	20	.4	12	.2	5	.1	84	1.6
Lay-offs	307	6.0	120	2.3	130	2.5	106	2.1	75	1.5	57	1.1	795	15.5
Total	614	12.0	225	4.4	282	5.5	272	5.3	211	4.1	196	3.8	1,800	35.1

Miscellaneous (50,017 employees):														
Quits	3,791	7.6	1,254	2.5	1,061	2.1	784	1.6	1,115	2.2	1,351	2.7	9,356	18.7
Discharges	922	1.8	328	.7	217	.6	210	.4	238	.4	147	.3	2,162	4.3
Lay-offs	2,137	4.3	1,182	2.4	1,153	2.3	1,109	2.2	2,105	4.2	921	1.8	8,607	17.2
Total	6,850	13.7	2,764	5.5	2,531	5.1	2,103	4.2	3,458	6.9	2,419	4.8	20,125	40.2
Petroleum refining (2,086 employees):														
Quits	35	1.7	27	1.3	18	.9	31	1.5	26	1.2	25	1.2	162	7.8
Discharges	4	.2	4	.2	11	.5	15	.7	12	.6	9	.4	55	2.6
Lay-offs	0		0		1	(1)	2	.1	0		0		3	.1
Total	39	1.9	31	1.5	30	1.4	48	2.3	38	1.8	34	1.6	220	10.5
Boots and shoes (4,658 employees):														
Quits	476	10.2	211	4.5	199	4.3	69	1.5	109	2.3	72	1.5	1,136	24.4
Discharges	48	1.0	21	.5	46	1.0	34	.7	11	.2	7	.2	167	3.6
Lay-offs	122	2.6	56	1.2	83	1.8	92	2.0	36	.8	38	.8	427	9.2
Total	646	13.9	288	6.2	328	7.0	195	4.2	156	3.3	117	2.5	1,730	37.1
Textiles—North (5,465 employees):														
Quits	335	6.1	206	3.8	271	5.0	171	3.1	169	3.1	294	5.4	1,446	26.5
Discharges	54	1.0	36	.6	49	.9	23	.4	20	.4	25	.5	207	3.8
Lay-offs	169	3.1	192	3.5	277	5.1	264	4.8	218	4.0	322	5.9	1,442	26.4
Total	558	10.2	434	7.9	597	10.9	458	8.4	407	7.4	641	11.7	3,095	56.6
Textiles—South (6,375 employees):														
Quits	632	9.9	319	5.0	255	4.0	269	4.2	176	2.8	127	2.0	1,778	27.9
Discharges	183	2.9	82	1.3	68	1.1	90	1.4	44	.7	38	.6	505	7.9
Lay-offs	303	4.8	133	2.1	137	2.1	137	2.1	80	1.3	88	1.4	878	13.8
Total	1,118	17.5	534	8.4	460	7.2	496	7.8	300	4.7	253	4.0	3,161	49.6
All industries (194,042 employees):														
Quits	11,485	5.9	4,658	2.4	4,822	2.5	4,446	2.3	4,173	2.2	4,445	2.3	34,029	17.5
Discharges	2,582	1.3	1,168	.6	1,396	.7	1,075	.6	825	.4	578	.3	7,624	3.9
Lay-offs	19,966	10.3	8,693	4.5	11,274	5.8	10,050	5.2	7,945	4.1	3,122	1.6	61,050	31.5
Total	34,033	17.5	14,519	7.5	17,492	9.0	15,571	8.0	12,943	6.7	8,145	4.2	102,703	52.9

[1] Less than one-tenth of 1 per cent.

PRODUCTIVITY OF LABOR

Labor Productivity and Displacement in the Slaughtering and Meat-Packing Industry

IN 1932 the United States Bureau of Labor Statistics made a study of labor productivity in certain departments of three large and three medium-sized slaughtering and meat-packing establishments in the United States. In these establishments cattle-killing, hog-killing, hog-cutting, calf-killing, and sheep-killing departments were studied. The period covered was 1914–1931 for the large plants and 1921–1931 for the medium-sized plants.

The average number of men employed in 1931 in the departments studied was 3,336. Of this number, 2,072 were in the large plants and 1,264 in the medium-sized plants.

It was considered advisable to use the figures of 1914 and 1921 as bases for comparison for the large plants. In these plants, from 1914 to 1919, productivity per man-hour decreased in all the departments except sheep killing and in some instances continued below the 1914 level until 1921 and later. From 1921 to 1931 the trend in productivity was rather regularly upward, reaching the highest point of the period in 1931. The net gain in man-hour efficiency (as shown by production per head) from 1914 to 1931 was lowest in the cattle-killing department (5.7 per cent) and highest in the sheep-killing department (61.0 per cent). This increase in efficiency has been secured in various ways: Elimination of waste motion, frequently increasing output with no increased effort on the part of the workers; change of layout rendering unnecessary the transfer of the product from one part of the plant to another during processing; combination of two jobs, each involving much idle time, so that one worker may do both; adoption of production bonuses, or other incentive plans, etc.

There was, of course, a corresponding loss in employment opportunities in these large plants. It would have required 2,585 men working at the 1914 rate of productivity to do the work which required 2,072 men to do in 1931; there was thus a loss of 513 full-time jobs (or 19.8 per cent) from 1914 to 1931. The number of employment opportunities lost during the period 1921–1931 was even greater than during the period 1914–1931; thus it would have required 2,752 men working at the 1921 rate to do the work done in 1931 by 2,072 men—a loss of 680 full-time jobs, or 24.7 per cent.

In the medium-sized plants, it would have required 2,020 men working at the 1921 rate of production to do the work of 1,264 men working at the 1931 rate, a loss of 756 jobs, or 37.4 per cent.

The net result was that in 1931 there were 513 fewer employment opportunities in the large plants and 756 fewer in the medium-sized plants than there would have been had there been no increase in man-hour production over that of 1914 and 1921.

Scope of Study

TABLE 1 shows, by biennial periods from 1921 to 1929, the importance of the plants covered by this study in the slaughtering and meat-packing industry as a whole, as measured by number of animals handled. Data were either lacking or incomplete for 1931 and for the years prior to 1921 and those years could not, therefore, be shown in the table.

TABLE 1.—PROPORTION ANIMALS HANDLED IN PLANTS COVERED BY STUDY FORMED OF THOSE HANDLED IN ENTIRE INDUSTRY, 1921 TO 1929

Department	Per cent animals handled in plants covered formed of those in entire industry in—				
	1921	1923	1925	1927	1929
Cattle killing	14.5	16.6	17.2	16.7	15.8
Hog killing	11.2	12.0	11.2	10.6	10.3
Calf killing	10.0	9.0	10.5	9.6	9.7
Sheep killing	19.1	19.1	22.2	20.2	18.0

Trend of Man-Hour Production

TABLE 2 shows the index of production per man-hour, per head and per unit of dressed weight, by departments, in the larger plants from 1914 to 1931, for each year for which data were taken.

TABLE 2.—INDEX OF PRODUCTION PER MAN-HOUR IN SPECIFIED DEPARTMENTS OF THREE LARGE MEAT-PACKING PLANTS, 1914 TO 1931

Year	Index of production per head					Index of production per unit of dressed meat				
	Cattle killing	Hog killing	Hog cutting	Calf killing	Sheep killing	Cattle killing (beef)	Hog killing (pork)	Hog cutting (pork)	Calf killing (veal)	Sheep killing (mutton and lamb)
1914	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1917	91.7	98.3	99.6	96.2	102.8	79.7	85.0	86.4	96.2	100.6
1919	76.8	95.4	85.2	96.1	100.9	66.8	95.4	103.6	97.6	92.2
1921	84.5	91.8	98.7	108.3	108.8	81.4	98.4	104.1	109.2	105.0
1923	85.3	106.5	105.0	104.2	104.7	79.7	113.1	108.1	101.1	100.2
1925	98.1	127.6	113.8	137.9	143.3	92.1	129.2	113.4	138.9	140.1
1927	97.9	125.8	116.7	126.7	144.3	89.6	135.3	120.3	131.1	139.5
1929	98.7	122.7	113.5	140.8	140.6	92.7	127.6	116.4	142.6	137.4
1931	105.7	133.2	121.1	141.6	161.0	99.0	136.1	121.4	151.7	154.1

Table 3 shows production indexes for the large and medium-sized plants by biennial periods from 1921 to 1931.

TABLE 3.—INDEXES OF PRODUCTION PER MAN-HOUR IN SPECIFIED DEPARTMENTS OF THREE LARGE AND THREE MEDIUM-SIZED MEAT-PACKING PLANTS, 1921 TO 1931

Year	Indexes of production per head									
	Cattle killing		Hog killing		Hog cutting		Calf killing		Sheep killing	
	Large plants	Medium-sized plants	Large plants	Medium-sized plants	Large plants	Medium-sized plants	Large plants	Medium-sized plants	Large plants	Medium-sized plants
1921	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1923	100.9	119.8	115.9	128.5	106.5	125.0	96.2	145.6	96.2	133.3
1925	116.1	125.8	138.9	134.0	115.2	162.9	127.4	168.4	131.8	133.3
1927	115.9	155.3	136.8	140.1	118.2	145.8	117.1	184.5	132.6	138.9
1929	116.8	163.4	133.5	146.4	114.9	149.0	130.0	200.0	129.2	149.5
1931	125.2	185.2	144.9	157.5	122.5	149.0	130.7	218.3	147.9	169.2
	Indexes of production per unit of dressed meat									
	Beef	*Beef*	*Pork*	*Pork*	*Pork*	*Pork*	*Veal*	*Veal*	*Mutton and lamb*	*Mutton and lamb*
1921	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1923	97.8	120.9	114.9	132.3	103.8	126.9	92.6	142.0	95.3	131.4
1925	113.1	125.8	131.2	132.3	108.9	159.5	127.1	170.1	133.3	132.6
1927	110.0	154.6	137.6	142.9	115.6	152.2	119.9	170.1	132.6	138.3
1929	113.8	168.9	129.7	149.7	111.9	151.1	130.7	188.0	130.7	146.6
1931	121.5	194.2	138.1	162.6	116.7	150.4	138.9	204.1	146.6	163.7

It is evident from Table 3 that man-hour efficiency (whether measured by production per head or production per unit of dressed meat) has, in every one of the departments studied, increased at a considerably faster rate in the medium-sized plants.

Displacement of Labor

TABLE 4 shows the number of full-time workers actually employed in all the departments covered by the study, in 1931, and the equivalent number that would have been required if working at the 1914 and 1921 rates of efficiency. The table also shows the number of men displaced and the per cent of decrease in employment opportunities from 1914 and 1921 to 1931 in the large plants and from 1921 to 1931 in the medium-sized plants.

TABLE 4.—NUMBER AND PER CENT OF EMPLOYMENT OPPORTUNITIES LOST IN SLAUGHTERING AND MEAT-PACKING PLANTS STUDIED, 1914 TO 1931

Department, and class of plant	Number of employees, 1931	Number of men required working at—		Loss of employment opportunities			
				Number		Per cent	
		1921 rate	1914 rate	1914 to 1931	1921 to 1931	1914 to 1931	1921 to 1931
Cattle killing:							
Large plants	720		761	41		5.4	
	720	901			181		20.1
Medium-sized plants	248	459			211		46.0
Hog killing:							
Large plants	489		651	162		24.9	
	489	709			220		31.0
Medium-sized plants	423	664			241		36.3
Hog cutting:							
Large plants	522		633	111		17.5	
	522	640			118		18.4
Medium-sized plants	500	738			238		32.2
Calf killing:							
Large plants	46		64	18		28.1	
	46	65			19		29.2
Medium-sized plants	14	25			11		44.0
Sheep killing:							
Large plants	295		476	181		38.0	
	295	437			142		32.5
Medium-sized plants	79	134			55		41.0
Total:							
Large plants	2,072	2,752	2,585	513	680	19.8	24.7
Medium-sized plants	1,264	2,020			756		37.4

Man-Hour Productivity in Individual Departments

TABLE 5 shows in detail the number of men actually employed, number of animals killed, the average live and dressed weight per animal, and the hours of labor required per animal and per hundredweight live and dressed; indexes of production per man-hour per head and per unit of dressed weight in the various departments based upon these figures are also shown.

TABLE 5.—MAN-HOUR PRODUCTIVITY AND INDEXES THEREOF, IN SPECIFIED DEPARTMENTS OF LARGE AND MEDIUM-SIZED MEAT-PACKING ESTABLISHMENTS, 1914 TO 1931

Department, class of plant, and year	Number of employees	Number of man-hours worked	Number of animals killed	Average weight per animal		Man-hours of labor required			Index of production per man-hour					
									1914 base			1921 base		
				Live	Dressed	Per head	Per hundredweight		Per head	Per hundredweight		Per head	Per hundredweight	
							Live	Dressed		Live	Dressed		Live	Dressed
Cattle killing														
Large plants:														
1914	665	1,555,269	842,287	1,090	610	1.846	0.169	0.303	100.0	100.0	100.0			
1917	1,178	2,755,999	1,368,625	1,003	530	2.014	.201	.380	91.7	84.1	79.7			
1919	1,343	3,143,600	1,307,713	998	530	2.404	.241	.454	76.8	70.1	66.8			
1921	821	1,922,064	880,162	1,057	587	2.184	.207	.372	84.5	81.6	81.4	100.0	100.0	100.0
1923	1,187	2,777,260	1,283,540	1,028	569	2.164	.210	.380	85.3	80.5	79.7	100.9	98.5	97.8
1925	1,160	2,715,040	1,443,027	1,049	572	1.881	.179	.329	98.1	94.4	92.1	116.1	115.6	113.1
1927	1,096	2,566,324	1,362,236	1,024	558	1.884	.184	.338	97.9	91.8	89.6	115.9	112.5	110.0
1929	894	2,092,087	1,118,800	1,025	571	1.870	.182	.327	98.7	92.9	92.7	116.8	113.8	113.8
1931	720	1,684,133	964,647	1,017	571	1.746	.172	.306	105.7	98.2	99.0	125.2	120.3	121.5
Medium-sized plants:														
1921	379	887,990	319,826	979	522	2.78	.284	.532				100.0	100.0	100.0
1923	400	936,979	404,265	967	527	2.32	.240	.440				119.8	118.3	120.9
1925	400	936,501	424,387	978	522	2.21	.226	.423				125.8	125.6	125.8
1927	327	765,567	427,016	961	521	1.79	.186	.344				155.3	152.7	154.6
1929	282	659,608	388,083	979	539	1.70	.174	.315				163.4	163.1	168.9
1931	248	581,088	387,027	971	548	1.50	.155	.274				185.2	183.2	194.2
Hog killing														
Large plants:														
1914	623	1,458,466	2,689,556	227	175	.542	.239	.310	100.0	100.0	100.0			
1917	754	1,766,003	3,202,243	204	151	.551	.270	.365	98.3	88.5	85.0			
1919	920	2,149,905	3,783,695	234	175	.568	.242	.325	95.4	98.8	95.4			
1921	657	1,538,007	2,606,715	253	187	.590	.233	.315	91.8	102.6	98.4	100.0	100.0	100.0
1923	818	1,914,062	3,761,066	257	186	.509	.198	.274	106.5	120.8	113.1	115.9	117.6	114.9
1925	477	1,177,605	2,773,491	244	177	.425	.174	.240	127.6	137.4	129.2	138.9	133.9	131.2
1927	490	1,148,261	2,664,368	256	188	.431	.168	.229	125.8	142.2	135.3	136.8	138.7	137.6
1929	565	1,320,306	2,989,982	249	182	.442	.177	.243	122.7	135.1	127.6	133.5	131.6	129.7
1931	489	1,143,216	2,811,693	244	178	.407	.166	.228	133.2	143.9	136.1	144.9	140.4	138.1
Medium-sized plants:														
1921	527	1,232,086	1,941,678	245	186	.63	.259	.340				100.0	100.0	100.0
1923	641	1,500,425	3,083,829	241	189	.49	.202	.257				128.5	128.2	132.3
1925	522	1,221,179	2,583,065	239	184	.47	.198	.257				134.0	130.9	132.3
1927	451	1,053,503	2,355,557	252	195	.45	.177	.238				140.1	146.4	142.9
1929	468	1,093,196	2,517,085	249	191	.43	.175	.227				146.4	147.9	149.7
1931	423	988,692	2,481,887	248	191	.40	.160	.209				157.5	161.8	162.6
Hog cutting														
Large plants:														
1914	485	1,133,713	2,491,071		178	.455		.255	100.0		100.0			
1917	596	1,394,035	3,053,203		155	.457		.295	99.6		86.4			
1919	687	1,607,937	3,008,916		217	.534		.246	85.2		103.6			100.0
1921	1,000	2,340,000	4,380,000		189	.461		.245	98.7		104.1	100.0		

1919	687	1,607,937	3,008,916		217	.534		.246	85.2		103.6			
1921	491	1,147,016	2,486,022		189	.461		.245	98.7		104.1	100.0		100.0
1923	676	1,581,533	3,649,835		183	.433		.236	105.0		108.1	106.5		103.8
1925	470	1,098,426	2,745,910		178	.400		.225	113.8		113.4	115.2		108.9
1927	512	1,199,486	3,074,390		184	.390		.212	116.7		120.3	118.2		115.6
1929	585	1,368,407	3,414,032		183	.401		.219	113.5		116.4	114.9		111.9
1931	522	1,220,851	3,250,135		179	.376		.210	121.1		121.4	122.5		116.7
Medium-sized plants:														
1921	576	1,348,188	1,936,260		186	.70		.373				100.0		100.0
1923	733	1,714,814	3,074,812		190	.56		.294				125.0		126.9
1925	475	1,112,127	2,578,418		184	.43		.234				162.9		159.5
1927	481	1,124,939	2,351,966		195	.48		.245				145.8		152.2
1929	508	1,187,667	2,518,697		191	.47		.247				149.0		151.1
1931	500	1,169,557	2,479,062		190	.47		.248				149.0		150.4
Calf killing														
Large plants:														
1914	39	91,736	189,972	130	87	.483	.371	.558	100.0	100.0	100.0			
1917	80	186,429	371,779	130	87	.502	.388	.580	96.2	95.6	96.2			
1919	93	218,258	433,849	133	88	.503	.380	.572	96.1	97.7	97.6			
1921	74	172,880	387,821	132	87	.446	.336	.511	108.3	110.4	109.2	100.0	100.0	100.0
1923	81	189,060	407,239	126	84	.464	.369	.552	104.2	100.5	101.1	96.2	91.1	92.6
1925	77	183,074	523,742	128	87	.350	.274	.402	137.9	135.3	138.9	127.4	122.7	127.1
1927	71	165,903	435,686	135	89	.381	.281	.426	126.7	132.1	131.1	117.1	119.6	119.9
1929	63	148,072	431,961	135	88	.343	.254	.391	140.8	146.0	142.6	130.0	132.3	130.7
1931	46	106,316	311,292	140	93	.341	.243	.368	141.6	152.7	151.7	130.7	138.3	138.9
Medium-sized plants:														
1921	17	39,944	41,584	201	115	.96	.477	.849				100.0	100.0	100.0
1923	14	33,026	50,096	196	110	.66	.336	.598				145.6	142.0	142.0
1925	19	46,996	82,037	208	115	.57	.275	.499				168.4	173.3	170.1
1927	19	42,946	82,773	187	104	.52	.278	.499				184.5	171.5	170.1
1929	15	34,849	72,174	185	107	.48	.261	.452				200.0	182.8	188.0
1931	14	32,302	72,641	186	107	.44	.239	.416				218.3	199.6	204.1
Sheep killing														
Large plants:														
1914	597	1,394,229	3,148,228	95	41	.443	.464	1.079	100.0	100.0	100.0			
1917	413	965,831	2,241,989	80	40	.431	.436	1.073	102.8	106.4	100.6			
1919	540	1,262,349	2,875,715	79	38	.439	.553	1.171	100.9	83.9	92.2			
1921	409	957,934	2,353,126	83	40	.407	.490	1.027	108.8	94.7	105.0	100.0	100.0	100.0
1923	364	851,626	2,010,961	82	39	.423	.515	1.077	104.7	90.0	100.2	96.2	95.1	95.3
1925	332	776,927	2,517,835	84	40	.309	.367	.770	143.3	126.4	140.1	131.8	133.5	133.3
1927	322	752,151	2,446,684	83	40	.307	.369	.774	144.3	125.8	139.5	132.6	132.8	132.6
1929	313	731,806	2,321,412	85	40	.315	.370	.786	140.6	125.5	137.4	129.2	132.4	130.7
1931	295	690,001	2,508,372	83	39	.275	.332	.700	161.0	139.7	154.1	147.9	147.5	146.6
Medium-sized plants:														
1921	86	202,461	461,558	75	41	.44	.516	1.069				100.0	100.0	100.0
1923	73	168,649	504,228	85	41	.33	.393	.814				133.3	131.2	131.4
1925	70	165,359	504,079	84	41	.33	.389	.806				133.3	132.6	132.6
1927	62	146,841	462,358	85	41	.32	.376	.773				138.9	137.2	138.3
1929	65	153,084	503,587	87	42	.30	.350	.729				149.5	147.5	146.6
1931	79	184,819	718,586	82	39	.26	.314	.653				169.2	164.2	163.7

Cattle-killing department.—Man-hour production in cattle killing reached the lowest point of the period in 1919, and was lower than in any of the other departments studied, but made a general gain until 1931. The gains recorded were the smallest of any of the departments studied.

In 1919 in the large plants the index of production per man-hour per head (on 1914 as the base) was 76.8 while the index per unit of dressed weight was 66.8. By 1931 the index per head had risen to 105.7 and per unit of dressed weight to 99.0. This appears to be a poor showing when compared with productivity gains made in the other departments included in the study and in other industries; it is due mainly to the fact that there has been but little change in the methods employed in killing cattle for a long period of years. Little labor-saving machinery or equipment is used and the men in the killing gangs become highly skilled in the operations. Therefore, the loss of a considerable number of the gang, such as occurred during the war period, when they were either taken into the military service or changed to other more promising jobs, is readily reflected in output per man. During the war period the loss of skilled men and the unprecedented demand for beef products made it necessary for the plants to take on inexperienced men. The result was a very decided reduction in man-hour productivity until 1919, and a slow recovery during the next several years.

When comparisons are based on the 1921 rate, the productivity shows a decided upward tendency, reaching in 1931 an index per head of 125.2 and per unit of dressed weight of 121.5; this was a gain of 25.2 and 21.5 per cent, respectively, over 1921.

Increased production was more marked in the medium-sized plants, reaching an index of 185.2 per head and 194.2 per unit of dressed weight in 1931, a gain of 85.2 and 94.2 per cent, respectively, in the 11-year period from 1921 to 1931.

Hog-killing department.—Production per man-hour during the war period was not reduced to the same extent in the hog-killing department as in the cattle-killing department. One reason for this is that the work in the former does not require as high a degree of skill, and it is therefore easier to fill places and to keep the force functioning at or near capacity production. Also, the work lends itself more readily to the use of labor-saving machinery and equipment than does that of cattle killing.

The lowest man-hour production per head in the large plants occurred in 1921 when the index was 91.8 and the lowest output per unit of dressed weight in 1917 when the index was 85.0; this was 19.5 per cent higher than the 1919 low for cattle killing per head and 27.2 per cent higher than the 1919 low per unit of dressed beef. The highest production point reached per head and per unit of dressed meat was in 1931, when it was 133.2 and 136.1, respectively, a gain of 33.2 per cent per head and of 36.1 per cent per unit of dressed weight over 1914. During the 11-year period from 1921 to 1931 production per head showed an increase of 44.9 per cent and per unit of dressed weight, 38.1 per cent.

The medium-sized plants showed a much greater gain in man-hour production from 1921 to 1931 than was shown in the large plants for

the same period, the gain per head being 57.5 per cent and per unit of dressed weight 62.6 per cent.

Hog-cutting department.—Man-hour production per head in the large plants reached its lowest point (85.2) in 1919 or 14.8 per cent below the 1914 base, and the index of production per unit of dressed weight in the same year was 103.6. From 1921 to 1931 the increase was gradual, reaching an index (on a 1921 base) of 122.5 per head and 116.7 per unit of dressed weight, the highest point of the period in 1931. A net gain of 21.1 and 21.4 per cent per head and per unit of dressed weight, respectively, was made from 1914 to 1931 and of 22.5 and 16.7, respectively, from 1921 to 1931.

The gain in man-hour production in the medium-sized plants was far greater than in the large plants, being 49.0 per cent per head and 50.4 per cent per unit of dressed weight.

Calf-killing department.—The man-hour production in the calf-killing department in the large plants remained well above that of cattle killing during the years of unsettled labor conditions. The lowest index reached in the calf-killing department during the period covered by the study was 96.1 per head in 1919 and 96.2 per unit of dressed weight in 1917. In 1931 the production rate was 141.6 per head and 151.7 per unit of dressed weight, a net gain in man-hour productivity of 41.6 and 51.7 per cent per head and per unit of dressed weight, respectively, from 1914 to 1931.

Comparisons based on the 1921 figures do not show so great a gain in man-hour production as was shown from 1914 to 1931, being only 30.7 and 38.9 per cent, respectively.

The greatest increase in man-hour production in any of the departments studied was made in the calf-killing department of the medium-sized plants during the 11-year period from 1921 to 1931—118.3 per cent per head and 104.1 per cent per unit of dressed weight.

Sheep-killing department.—The man-hour output on the basis of number of animals handled in the sheep-killing department of the large plants provided the only instance in which man-hour production never fell below the 1914 base during the period studied. The gain in productivity per head was slow from 1914 to 1921, having in the latter year reached an index only 8.8 per cent above the 1914 base, but by 1927 it was 44.3 per cent above and in 1931 61 per cent above the 1914 rate. As regards productivity per unit of dressed weight, there was a slight loss in 1919 when the index dropped to 92.2, the lowest point in the 18-year period. By 1921 it had risen to 105 and in 1931 to 154.1, making a net gain for the period of 61 per cent per per head and 54.1 per cent per unit of dressed weight.

In using 1921 as the basis of comparison it is found that the man-hour production index per head and per unit of dressed weight dropped to 96.2 and 95.3, respectively, in 1923. From that point onward the trend was upward, reaching the highest index in 1931—147.9 per head and 146.6 per unit of dressed weight.

In this department, also, man-hour production increased more rapidly in the medium-sized plants from 1921 to 1931 than in the large plants, the per cent of increase being 69.2 per head and 63.7 per unit of dressed weight.

Productivity of Labor in the Building of Concrete Roads in Illinois

IN MAKING a study of concrete-road building in Illinois in 1932 the Bureau of Labor Statistics collected information showing the productivity and efficiency of employees and of machinery used in the building of such roads. The information was obtained from a representative contracting company (hereafter designated as Company A) for a typical contract in 1919, 1925, and 1930, and also from each of seven other companies (designated as Companies B–H) for a contract in 1925 and 1931. Additional information was collected from the Illinois State Highway Department.

The purpose of the study was to ascertain as nearly as possible the extent of the increase in productivity per man-hour in 1925 over 1919 and in 1930 over 1925 and 1919.

Contracts of Company A

THE 1919, 1925, and 1930 contracts of Company A did not include the original rough grading for the roadbed, as that work had been done prior to the letting of the contract for the construction of the road. Each contract did, however, cover the subgrading required in cutting and excavating the channel in the roadbed to allow for the concrete slab of specified dimensions, and the placing of forms for the slab. It also covered the handling and hauling of cement, sand and gravel, or stone to the mixer, and the mixing, laying, finishing, and shouldering the concrete road covered in the contract.

The 1919 contract of Company A called for a concrete road 18 feet in width, 7 inches thick at the edges and increasing to 8 inches at the center, and approximately 8,800 feet in length. The 1925 and 1930 contracts were each for a road 18 feet in width, 9 inches thick at the edges, decreasing to 6 inches 2 feet from each edge and continuing at such thickness over the remainder (14 feet) of the width of the road. The length of the road contracted for in 1925 was 29,250 feet and of that in 1930, 34,785 feet.

Subgrading.—On the basis of number of cubic yards of dirt moved and number of hours consumed by the subgrading crew in cutting the channel in the roadbed for the concrete slab, the excavation of a cubic yard of dirt required an average of 0.97 man-hour in 1919; 0.63 man-hour in 1925; and 0.45 man-hour in 1930. Thus, the productivity of the crew in 1925 was 54 per cent more than in 1919; in 1930 its productivity was 40 per cent more than in 1925 and 115 per cent more than in 1919. The increased productivity per man-hour in 1925 as compared with 1919 and in 1930 as compared with 1925 and 1919 was due primarily to the introduction and increasing use of labor-saving machinery and the increased skill of the crew in the operation of the machinery.

The number of pieces of equipment used each year are shown in Table 1. The subgrading crew included 15 men in 1919, 18 men in 1925, and 24 men in 1930.

TABLE 1.—EQUIPMENT USED BY SUBGRADING CREW OF COMPANY A IN 1919, 1925, AND 1930

Equipment	Number of units of equipment used in—			Equipment	Number of units of equipment used in—		
	1919	1925	1930		1919	1925	1930
Elevating graders	1	1	1	Scrapers—Continued			
Steam engines	1			Slip	6	12	6
Caterpillar tractors		2	5	Wheel		4	4
Wheel tractors		1	1	Horse-drawn plows	2		
2 or 3 horse dump wagons	8	8		Shouldering machines		1	1
Dump trucks			6	Gasoline rollers	1	1	1
Scrapers:				Motor trucks	1		
With 9-foot blade	1			Mules and horses	24	24	6
With 8-foot blade		1	2				
Rip-snorter, with steel teeth	1	1					

The elevating grader used in each of the years may be drawn by steam engine, caterpillar tractor, mules, or horses; it is used to plow the ground on the roadway, turning the plowed dirt onto a belt. As the belt revolves it lifts the dirt from the roadbed and loads it into dump wagons, each drawn by two or three mules or horses or into motor dump trucks. The steam engine used to draw the grader in 1919 was discarded in favor of a caterpillar tractor in 1925.

The wagons used in 1919 and 1925 for hauling and distributing dirt along the roadway to make the desired grade were supplanted by the much more efficient motor trucks in 1930.

It is evident that various types of scrapers were used by the company, some drawn by steam engine, caterpillar tractor, animals, and some equipped with motors.

Shouldering was done entirely by hand in 1919. The shouldering machine used in 1925 and 1930 is equipped with an adjustable blade which grades the dirt along the edges of the concrete slab.

The motor-driven gasoline roller was used in each year to make the roadbed as compact as possible after the completion of the subgrading and immediately before the laying of the concrete slab.

Certain miscellaneous hauling was done in 1919 by a small motor truck.

It is seen that the number of draft animals used declined from 24 in 1919 and 1925 to 6 in 1930.

Paving.—The paving crew includes employees engaged in delivering materials to the mixer, in mixing, laying, and finishing the concrete road. This crew completed a cubic yard of concrete in an average of 5.17 man-hours in 1919; 4.25 man-hours in 1925; and 3.27 man-hours in 1930. Thus, its productivity in 1925 was 21.6 per cent more than that in 1919; the productivity in 1930 was 29.9 per cent more than that in 1925 and 58.1 per cent more than that in 1919. In the case of this crew, also, the increase in productivity was due to more efficient labor-saving machinery and increased skill in the operation of the machinery.

The equipment used by the paving crew is shown in Table 2. This crew included 36 men in 1919, 76 men in 1925, and 91 men in 1930.

TABLE 2.—EQUIPMENT USED BY PAVING CREW OF COMPANY A IN 1919, 1925, AND 1930

Equipment	Number of units of equipment in—			Equipment	Number of units of equipment in—		
	1919	1925	1930		1919	1925	1930
Bins for storage of materials:				Wooden boxes	120	120	
Wooden	1	2		Locomotives equipped with gasoline engine	4	6	8
Steel, with automatic gates and scales			1	Power pumps	1	2	2
Crane equipped with—				2-inch pipe line—miles	3½	5	7
Bucket holding ¾ cu. yd	1			7-inch steel forms—feet	2,000		
Bucket holding 1 cu. yd		1	1	9-inch steel forms—do		5,000	6,000
24-inch-gauge track and switches—miles	4	5	6½	Subgraders	1	1	1
Wooden cars:				Motor trucks			2
Each with 4-bag wooden boxes	60			Concrete pavers, of— 4-bag capacity	1		
Each with two 3-bag wooden boxes		60		6-bag capacity		1	1
Steel cars, each with two 7-bag boxes			50	Finishing machines	1	1	1
				Belters		1	1

The power cranes in Table 2 were used to lift the materials from the storage bins and load them into boxes on cars which were then hauled by small locomotives over the 24-inch-gauge track extending from the bins to the concrete paver.

In 1919, 60 wooden cars were used, each with a box whose capacity was 4 bags; in 1925, wooden cars were still being used, but each carried 2 boxes capable of holding 3 bags each, thus increasing the hauling capacity of each car 50 per cent over 1919. By 1930 the use of the wooden cars had been discontinued and 50 steel cars were in use, each with 2 boxes holding 7 bags each. Thus the changes made, while decreasing the number of cars, increased the total bag capacity from 240 bags in 1919, to 360 bags in 1925, and to 700 bags in 1930.

The pipe line shown in the table was used for the transportation of water to the paver, and the steel forms were used for holding the concrete in place.

In the concrete paver used in 1919 only four bags of cement could be used for a batch of concrete, while the paver used in 1925 and in 1930 had a capacity of six bags. The time required for mixing a batch, however, was approximately the same in all three years.

The finishing machine is used to tamp or smooth the top or surface of the concrete slab. It is mounted on flanged wheels on the steel forms mentioned above and is driven by gasoline motor. The belter extends from form to form across the slab and performs the final finishing operation on the slab before the latter is covered for curing.

Contracts of Companies B to H

FOR Companies B to H definite information as to subgrading could not be obtained, as information for this operation was inseparably combined on the records of each company with figures for the paving crew. From each of these companies, however, data were obtained for a rough grading contract in 1925 and in 1931. Each contract covered the original grading for a roadway, including excavating and moving dirt to make the proper grade for the roadbed, ditching for drainage, and the laying of drainage pipes.

Table 3 shows the increase in the productivity on contracts of Companies B to H in 1931 as compared with 1925. The average

man-hours per cubic yard of dirt moved, shown in the table, cover the rough-grading crew only, and the average man-hours per cubic yard of concrete road constructed in 1925 and 1931 cover the subgrading crew and the paving crew combined.

TABLE 3.—PRODUCTIVITY OF ROAD-CONSTRUCTION CREWS OF COMPANIES B TO H, 1925 AND 1931

Company	Moving of dirt [1]			Construction of concrete road [2]		
	Average man-hours required per cubic yard moved		Per cent of increase in productivity, 1925 to 1931	Average man-hours required per cubic yard constructed		Per cent of increase in productivity, 1925 to 1931
	1925	1931		1925	1931	
Company B	0.367	0.150	145	3.875	3.693	5
Company C	.350	.168	108	4.425	3.489	27
Company D	.337	.167	102	2.954	2.474	19
Company E	.279	.172	62	4.047	2.929	38
Company F	.407	.215	89	3.999	2.364	69
Company G	[3]	[3]	[3]	5.433	3.569	52
Company H	[3]	[3]	[3]	5.420	4.484	21

[1] Rough-grading crew only. [2] Subgrading and paving crew combined. [3] Data not available.

The above figures show that the rough-grading crew of Company B required an average of 0.367 man-hour (or approximately 22 minutes) to excavate and move a cubic yard of dirt in 1925, and 0.150 man-hour (or 9 minutes) in 1931. The per cent of increase in productivity from 1925 to 1931 was 145, which means that nearly two and one-half times as much work was accomplished in a man-hour in 1931 as in 1925. Among the seven companies the increase in the productivity of the rough-grading crews ranged from 62 to 145 per cent.

Between the same years the increase in the productivity of the paving crews of these companies ranged from 5 to 69 per cent.

Labor Productivity in Anthracite Mining, 1931

STATISTICS of anthracite mining for the year 1931, recently released by the United States Bureau of Mines in mimeographed form, show, as compared with 1930, an increase in output per man per day and in the number of man-days lost owing to labor disputes and a decrease in working time, number of employees, and tonnage produced. The record with respect to these salient factors of the industry appears in Table 1 for the years 1926 to 1931, inclusive.

STATISTICS OF THE ANTHRACITE INDUSTRY, 1926 TO 1931

Year	Average number of men employed	Average number of days worked	Production (tons)	Output per man per day (tons)	Man-days lost on account of strikes and lockouts
1926	165,386	244	84,437,452	2.09	5,990,477
1927	165,259	225	80,095,564	2.15	159,242
1928	160,681	217	75,348,069	2.17	400,682
1929	151,501	225	73,828,195	2.17	272,511
1930	150,804	208	69,384,837	2.21	112,398
1931	139,431	181	59,645,652	2.37	570,664

In the anthracite industry there has been little change in the productivity of mine labor in late years. However, in 1931, the output per man per day rose to 2.37 short tons [1] as compared with 2.21 tons in 1930, an increase of 7 per cent as compared with a 2 per cent rise between 1929 and 1930 and no change between 1928 and 1929.

The loss in average number of employees between 1930 and 1931, amounting to nearly 8 per cent, was greater than in any 1-year period between 1926 and 1931. This is also true of the average number of days worked, the decrease being 13 per cent, and of total production, the loss in production between 1930 and 1931 amounting to 14 per cent.

Although the number of man-days lost on account of strikes and lockouts in 1931 was not so great as in the strike year, 1926, the total days lost in the later year (570,664) was far in excess of the days lost in either 1927, 1929, or 1930, and 42 per cent above the 1928 total.

A significant rise has occurred in the quantity of anthracite mined by stripping, the total for 1931 amounting to 3,813,237 tons as compared with 2,536,288 tons in 1930. Thus in a 1-year period the total tonnage taken from strip mines increased by 50 per cent. For the period 1926 to 1931 the tonnages obtained from strip mines were as follows:

Year	Tons
1926	2,401,356
1927	2,153,156
1928	2,422,924
1929	1,911,766
1930	2,536,288
1931	3,813,237

If it is true in the anthracite industry, as in bituminous coal mining, that output per man per day is higher in stripping operations than in deep mines, the increase in strip-mined anthracite in 1931 must account in part for the 1931 increase in output per man per day in the anthracite industry.

[1] Throughout this discussion the short ton of 2,000 pounds has been used in accordance with a newly established policy of the U. S. Bureau of Mines.

Digest of Material on Technological Changes, Productivity of Labor, and Labor Displacement

THE Bureau of Labor Statistics for several years has been making special studies of man-hour productivity of labor, as a means of measuring, over a period of time, the effect upon output of the changes brought about by increased mechanization and use of power in industry, improvements in processes and methods of work, greater managerial ability, standardization of product, elimination of waste, etc. More recently the bureau's studies have emphasized the actual displacement of labor and decreased employment opportunities resulting from the increased per capita output which has attended these various technological changes. Most of the bureau's productivity studies are first-hand investigations of the various industries. Where that method has not been used, material gathered from other sources has been analyzed and interpreted by the bureau to furnish additional authentic data on labor productivity in fields which the bureau itself has not entered—for example, the railroad and mining industries.

To bring together in sequence, by industry, the material on productivity and labor displacement published by the bureau, either in bulletin form or in the Labor Review, the following digest is presented. It covers all the industries, except agriculture,[1] which the bureau has thus far treated in any degree, but attempts to give only the essential—sometimes only the spectacular—facts and figures. Reference is made to the publication in which the detailed report may be found. Unless source material is mentioned, the summary is based upon an original survey by the Bureau of Labor Statistics.

Amusement Industry

THE introduction of sound in moving-picture theaters displaced musicians entirely in small theaters and resulted in about 50 per cent loss of employment among theatrical musicians in general. On the other hand the number of operators required to run the sound-picture machines increased. Employment data are not obtainable, but the international union holding jurisdiction over moving-picture-machine operators grew in membership from 24,342 in 1926 to approximately 32,000 in 1931.

Sound pictures also completed the elimination of the legitimate theater outside the large cities. Stock companies which in 1929 numbered 140 throughout the country, were reduced to 80 by December 1, 1930. Vaudeville houses as distinct from moving-picture theaters presenting vaudeville performances have practically ceased to exist, except for the very few "burlesque" houses still operating in some large cities.

Radio broadcasting affords a degree of compensation for displacement in the amusement industry by furnishing employment to

[1] An article on the mechanization of agriculture as a factor in labor displacement was published in Labor Review, October, 1931, p. 1.

musicians and, to a less extent, to individual performers. (Labor Review, August, 1931, p. 1.)

The introduction of sound pictures into the moving-picture theaters of Washington, D. C., was accompanied by substantial increases in the earnings of licensed machine operators, and by the elevation of assistant and apprentice operators to journeyman status. Musicians, however, lost their jobs because of the installation of mechanical musical devices. In the white theaters about 60 per cent and in the colored houses 91 per cent were thus thrown out of employment. Some 30 per cent of these "technological casualties" were reabsorbed into the musical profession on either a full-time or part-time basis. (Labor Review, November, 1931, p. 1.)

Automobile Industry

INCREASED production, increased efficiency in organization and equipment, and improved practices and methods in automobile manufacture have made striking reductions in the number of man-hours required to produce a finished automobile. For example, comparative figures of the average man-hours required per car in representative establishments show reductions between 1912 and 1923 from 4,664 to 813 in one establishment; and from 1,260 to 228 in another. Data applying only to "productive" workers in still another factory (i. e., those actually engaged in the fabrication of the product) give 97 productive man-hours per car in 1918 and 51 in 1923.

Various machines, devices, and practices have contributed to this end. One of the newer types of metal-heating furnace required 3 men instead of 2, but produced as much heat-treated material as 4 of the older furnaces, thus increasing production per man 2⅔ times. Machine forging instead of drop forging doubled production per man. A special machine for the manufacture of pressed-steel frames, operated by one man, produced 6 frames per minute, or 3,600 in 10 hours, an output which by hand methods would require 175 men. One man with a spot-welding machine is equivalent to 8 hand riveters. One man soldering by hand could finish 2 radiators per hour, while by dipping the radiator into a tank of solder he can do 40 per hour. A change from grinding to honing cylinders increased output per man per day of 9 hours from 21 cylinder blocks to 170 (4-cylinder blocks) in one establishment, and from 27 to 225 in another. Automatic lathes used in the production of crank shafts resulted in an increase of 300 per cent in production per man. In the casting of pistons a machine produced an average of 900 moldings per man per day of 8 hours and required only laborers, while the skilled molder and his helper could average only 200 each per day of 8 hours. An automatic machine with one attendant drilled 335 pistons per hour, while on the former type of multiple-spindle machine one man drilled 150 pistons per hour.

Improved methods and practices, and reorganization on the "assembly-line" plan, enabled one automobile-body manufacturer to reduce the number of hours required to produce a body from raw materials, from 299 hours to 83 hours, without changing the average number of employees.

An automatic enameling machine usually requires about 30 per cent as much labor as would be required by hand dipping for the same production, and changes the process from a skilled to an unskilled operation. Screw machines have accomplished a change which reaches a ratio of 1,000 to 1 as compared with production under obsolete methods. (Labor Review, October, 1924, p. 1.).

A change in layout in the foundry of an automobile concern, to improve core-making methods, increased production in the plant 50 per cent. (Labor Review, August, 1928, p. 41. Review of article in Iron Age, May 31, 1928.)

Standardization and better production methods have lessened the amount of bench work necessary in the fitting of automobile parts. Machine-shop bench hands constituted 3.9 per cent of all wage earners in automobile manufacture in 1922, and only 1.2 per cent in 1930. New methods of painting, lacquering, and finishing automobile bodies have caused marked shifts in occupations of workers. The number of letterers, stripers, and final touch-up painters, and varnish rubbers have decreased considerably, while lacquer rubbers, metal finishers, paint sprayers, and sanders and rough-stuff rubbers have increased materially. (Labor Review, February, 1932, p. 248.)

Index numbers of man-hour productivity in the automobile industry from 1904 to 1927, based on the year 1914 as 100 were as follows: 1904, 40; 1909, 35; 1919, 141; 1924, 258; 1925, 280; 1926, 320; 1927, 278. (Labor Review, March, 1930, p. 13.)

Building Industry

Bricklaying

MAN-HOUR productivity in bricklaying in straightaway walls varied (in 1923) from 95.7 bricks laid per hour in Indianapolis and 97.7 in Boston, to 231.8 in Norfolk, and 241.0 in Birmingham. The number of square yards of plastering (net area) per man per hour ranged from 4.5 in Boston to 7.8 in Philadelphia, but in most cities the net area plastered per man per hour was about 6 square yards. (Labor Review, November, 1924, p. 1.)

Road Building and Street Work

A compressor machine used in road-repair and repaving work, driven by a gasoline motor and equipped with air-compressor drills, cutter, spade, sprayer and blower, is manned by an operator and one or two laborers. The air-compressor drill will in less than 35 minutes break a hole in an old paving large enough to permit the spade to begin operating; the same work would require 3 hours of 1 man's time with a sledge hammer and pick. A power shovel, of 1¼ cubic yards' capacity, will dig up and dump 93 cubic yards of paving per hour, which is the equivalent of the labor of 62 men working 1 hour with hand shovels.

On a road-building job in which the most modern road-building machinery was used, the average number of cubic yards of concrete mixed and poured per man-hour was 0.943.

A ditch-digging machine operated by one man, preceded by a laborer to clear the way for the machine, will dig 22 cubic yards of

trench per man-hour, an output which would require 44 men working by hand. (Labor Review, December, 1931, p. 1.)

Wrecking of Buildings

A labor-saving experiment in a building-wrecking operation, involving the use of a portable 5-ton crane equipped with a 1,500 pound "skull cracker," resulted in the dismissal of 38 of the 50 house wreckers employed on the job, as the crane was accomplishing "the work of 100 men at one-eighth of their cost." With one blow the "skull cracker" accomplished as much as two men in an hour and a half. The 12 men retained tore down windows and doors, sorted salvage, etc. (Labor Review, June, 1929, p. 114. From American Builder, August, 1928, p. 92.)

Cigar and Tobacco Industry

THE machine used in making long-filler cigars produces about the same number of cigars as two cigarmakers can produce by the hand method. Fifty per cent of the output of long-filler cigars in the United States is produced on these machines. Each machine requires 4 employees—1 filler feeder, 1 binder layer, 1 wrapper layer, and 1 inspector; and the part-time services of a mechanic and an oiler.

Mass production by machinery has changed the industry from small hand plants to large-scale factories, frequently located in small communities instead of in cities as were the hand plants. In 1930, 0.46 per cent of the factories in operation produced 49.8 per cent of all the cigars manufactured. It is estimated that 21,356 employees had been displaced by 1931. (Labor Review, December, 1931, p. 11.)

In tobacco manufacture as a whole, production per worker increased 191.0 per cent between 1899 and 1925, while volume of production increased 168.7 per cent with 7.7 per cent fewer persons employed. (Labor Review, June, 1927, p. 54. Analysis of Census data.)

Copper Industry

A LARGE copper refinery reported a 10 per cent increase in total output over a 9-year period (1918 to 1927), with a reduction in working force, skilled and unskilled, from 578 employees to 233. The number of pounds of copper refined per man per day was 610 in January, 1918, and 1,612 in August, 1927. (Labor Review, November, 1927, p. 30.)

Electric Light and Power Industry

THE unit of output in this industry is the kilowatt-hour, representing the use of 1,000 watts for 1 hour or the use of 1 watt for 1,000 hours; hence, output per employee is dependent to a large extent upon the demands of consumers, and the employees are not in a position to control output. Expansion of the industry, however, has resulted in an increased output per employee of 260 per cent as between 1902 and 1927. The principal reasons for this greatly increased productivity are (1) increased size and efficiency and improved construction of the generating units, boilers, and auxiliary equipment, resulting in a proportionately smaller number of employees per unit

of equipment; and (2) long-distance transmission, mass production from centralized establishments, and the elimination of small local generating plants.

While installations of larger units and of automatic devices, particularly of mechanical coal stokers, have reduced employment opportunities, this displacement has been offset by the labor demand created through the tremendous expansion of the industry and the increase in activities undertaken to give reliable and uninterrupted service. (Labor Review, August, 1932, p. 249.)

Food Industries

Bread Making

THE introduction of machinery "has made the work in the bakery comparatively light and easy, has reduced the number of employees required to operate the bakery, especially the number of bench hands or hand bakers, oven men, and helpers, and has greatly increased production."

Mixing machines, with a capacity of 4 barrels of flour, mix a batch of dough in 12 minutes. The time required to bring together the ingredients contained in a batch of dough and place them in the mixer ranges from 1 to 10 minutes, the most frequent time reported being 5 minutes. The highest production per man per hour, all employees considered, was 103 pounds of bread, and the lowest, 48 pounds. The highest production per baker (i. e., mixers, bench hands, machine hands, and oven men) per hour was 427 pounds of bread, and the lowest, 87 pounds.

High production was achieved in a plant mechanized throughout, which employs very few bench hands, no oven men, and machine hands only at the divider and one at the molder. (Labor Review, December, 1923, p. 1.)

Cane-Sugar Refining

The index of man-hour productivity in cane-sugar refining fell from 100 in 1914 to 78 in 1919, then advanced steadily until 1926, when it reached 140, falling again to 133 in 1927. Maximum total production occurred in 1926, when the index number stood at 164. (Labor Review, March, 1930, p. 16.)

Flour Milling

Index numbers of man-hour productivity in the flour-milling industry from 1904 to 1927 (on the basis of 1914 as 100) ranged from a low of 92 in 1909 to a high of 159 in 1927. Production showed slight variation and the index of man-hours worked fell from 105 in 1909 to 64 in 1927. (Labor Review, March, 1930, p. 15.)

Slaughtering and Meat Packing

The index number of man-hour productivity in slaughtering and meat packing, 1909 to 1927 (on the basis of 1914 as 100) stood at 115 in 1909 and 126 in 1927. The minimum productivity index was 98 in 1919, and the maximum 127, in 1926. As regards total production the maximum was 147, in 1924 (the productivity index for that year was 125); and the minimum was 100, in 1914. The index of man-hours worked reached its lowest point, 89, in 1909; and its

highest point, 136, in 1919, the year of the lowest productivity. In the year of highest productivity (1926) the index of man-hours stood at 110. (Labor Review, March, 1930, p. 9.)

Iron and Steel Industry

IN THE merchant blast furnace industry, data obtained from selected plants producing pig iron for sale in the open market show that the average output of pig iron per man-hour in the period 1912 to 1914 was 0.141 gross ton; whereas in 1926 the output had risen to more than twice that figure, or 0.296 gross ton. From 1912 to 1926 the average output per stack day increased from 261.4 to 369.1 gross tons.

Factors contributing to the higher productivity of labor in this industry are the substitution of machinery for hand labor, the abandonment of inferior plants, and the change from the 12-hour to the 8-hour day. The extent to which machinery has been introduced is brought out by the fact that during the pre-war years 1911 to 1914, 15 of the 37 plants studied were hand-filled and sand-cast; while in 1926 only 3 out of 49 plants studied were operated in that manner. (U. S. Bureau of Labor Statistics Bul. No. 474: Productivity of labor in merchant blast furnaces, 1928.)

Index numbers of production of blast furnaces in the period from 1850 to 1920 (using 1850 as 100) show that the index of output per man had increased from 100 in 1850 to 3244 in 1919, or 3,144 per cent. Expressed in long tons, the output increased from 25 tons per man per year in 1850 to 811 tons in 1919. (Labor Review, July, 1922, p. 6.)

Productivity indexes for blast furnaces for the period 1899 to 1925, based on the year 1909 as 100, are as follows: 1899, 55; 1904, 74; 1914, 126; 1919, 120; and 1923, 194. For steel works and rolling mills, the indexes are: 1899, 61; 1904, 68; 1914, 96; 1919, 97; and 1923, 132. The indexes for both blast furnaces, and steel works and rolling mills combined were: 1899, 60; 1904, 69; 1914, 100; 1919, 100; 1923, 139; and 1925, 159. (Labor Review, December, 1926, p. 31.)

Man-hour productivity in the blast-furnace industry, as indicated by data covering plants producing 95.8 per cent of the total blast-furnace output in the United States in 1929, is directly influenced by the size of the plant, the degree of mechanization, the kind of ore handled, the character of the labor force, and the wages paid. In the plants paying the highest wages the man-hour productivity was eleven times as great as in the lowest-wage plants. Plants with the smallest average horsepower showed the smallest average output per plant and the smallest output per man-hour (0.387 ton), whereas the plants with the largest horsepower showed the largest output per plant and per man-hour (0.759 ton). The average output per man-hour for the entire industry, all States considered, was 0.589 ton. The highest average output per man-hour, by States, was 0.920 ton in Indiana, where 524 wage earners in 3 establishments produced an average output per establishment of 1,425,920 long tons of pig iron in 1929. In Alabama, the lowest productivity State (0.351 ton per man-hour), 240 wage earners in 10 establishments produced an average output per establishment of 270,592 long tons. (Labor Review, August, 1932, p. 260. Based on 1929 Census of Manufactures.)

The growth of the iron and steel industry is indicated by the following figures based on census data: The per cent of increase from

1899 to 1925, in physical volume of production, was 204.4; in number of persons engaged, 145.8; in primary horsepower, 307.5; and in production per person engaged, 23.9. "Number of persons engaged," however, includes proprietors, executives, clerical force, etc., as well as direct labor. (Labor Review, June, 1927, p. 54.)

Index numbers of man-hour productivity for the period from 1899 to 1927, using 1914 as 100, are: Blast furnaces, 44 in 1899, 80 in 1909, 85 in 1919, and 203 in 1927; steel works and rolling mills, 63 in 1899, 104 in 1909, 96 in 1919, and 146 in 1927. (Labor Review, March, 1930, p. 2.)

Productivity of labor in the sheet department of the iron and steel industry showed a steady gain in average output per man-hour from 1925 to 1929, except in the annealing operations. For bar shearing, the increase was from 1.893 net tons per man-hour in 1925 to 2.200 in 1929, or 16 per cent; for cold rolling, from 1.159 to 1.480 net tons, or 12 per cent; for sheet pickling, from 0.702 to 0.857 ton, or 12 per cent; and for hot rolling, from 0.072 to 0.077 ton, or 7 per cent. In the annealing department the gain in output per man-hour was more than offset by the increased labor time required to meet the increasing demand for full-finished sheets of deep-drawing quality.

Among the factors affecting productivity are the substitution of machinery for labor, better-designed machinery, improvement in management, working conditions, etc. In general, however, the real gain in labor productivity due to improvement in technology and management was obscured by the increase in labor time required in the production of high-grade sheets for use in the manufacture of automobile bodies, electric refrigerators, and metal furniture. (Labor Review, January, 1932, p. 19.)

Output per man-hour in one steel plant shows the following per cent of increase in 1926 over 1902: In ore unloading, 706.7; in blast furnaces, 277.3; in Bessemer ingots, 99.8; in all open-hearth ingots, 66.0; and in the rail mill, 120.1. "The average man in a modern iron and steel plant is producing from one and a half to eight times as much as he did 25 years ago." (Labor Review, December, 1927, p. 61. Quoting Theodore W. Robinson, of the Illinois Steel Co.)

Modern methods of molding have "obviated much of the molder's skill, as well as many hours of labor." Under former processes "it took the molder * * * and his helper a week to make the largest radial drill bases. * * * At the present time the same type of base is made in one day by a molder and a helper." (Labor Review, March, 1927, p. 23.)

In 1925 an increase of 44 per cent in the number of workers over the number employed in 1850 increased the output of pig iron 7,178 per cent above that produced in 1850. Production per man increased 4,928 per cent. "Stated differently, the number of wage earners in blast furnaces in 1850 was 882 per million of population. In 1921, which, however, was a slump year, there were 173 wage earners in this industry per million of population." (Labor Review, June, 1928, p. 29.)

Leather Industry

INDEX numbers of man-hour productivity in the leather industry for specified years, on the basis of 1914 as 100 are: 1899, 93; 1909, 92; 1919, 102; 1921, 130; 1923, 138; and 1927, 141. During the same

period the index numbers of man-hours ranged from 92 in 1899 and 117 in 1919 to 86 in 1927, with a minimum of 80 in 1921; while production increased from an index of 86 in 1899 to 134 in 1923. The production index in 1927 was 121. (Labor Review, March, 1930, p. 8.)

Between 1923 and 1931, quantity output per hour in the leather industry increased materially. This increase ranged, in the various branches, from a little over 4 per cent in the manufacture of sheepskins to more than 27 per cent in the manufacture of side leather. For the whole industry the increase was approximately 15 per cent.

Technological development has not been an important factor in the industry, and skilled hand labor is still a requisite. Most of the machines now in use in tanneries had been introduced in much their present form at least 30 or 40 years ago, hence mechanization has played only a small part in increasing output. The principal cause of the increase has been the improved management of labor and the accompanying taking up of slack in the expenditure of the time of the labor force. The estimated displacement between 1923 and 1931 due to greater efficiency was 6,685 workers. (Labor Review, September, 1932, p. 1.)

Lumber Industry

THE number of man-hours (all employees) required per 1,000 board feet of lumber produced ranged from 20.15 in Georgia to 8.54 in Oregon, and averaged 12.71 for 22 States. These sawmill operations began with the log in the pond and ended with the lumber stacked in the yards or loaded on cars. (Labor Review, January, 1923, p. 1.)

Index numbers showing production of lumber per person engaged in the industry, based on Census data and using 1919 as 100 are: 1899, 121.7; 1904, 125.3; 1909, 120.6; 1921, 108.1; 1923, 111.3; and 1925, 120.7. (Labor Review, June, 1927, p. 54.)

Data regarding man-hour rates of production for the lumber and timber products industry in California, Oregon, and Washington in 1929 were collected by the Bureau of the Census in its biennial census of manufactures for that year. The study was confined to large mills, as only establishments which reported products valued at $100,000 or more were covered by the Census Bureau.

The measure of physical output in the lumber industry is a thousand board-feet. Efficiency, as measured by man-hour productivity, depends largely upon the extent of mechanization. In fact, the most reliable indicator of efficiency in this industry is horsepower per wage earner employed, the increase in productivity with increase in horsepower per wage earner being appreciable. Thus Oregon, where the average horsepower per wage earner was 7.1, ranked highest in productivity, showing an average output of lumber, in thousand board-feet, of 0.062 per man-hour. The lowest output per man-hour was 0.035 in California, where the average horsepower per wage earner was 5.5. Washington, while showing a somewhat lower average horsepower per wage earner employed than California (5.2) had a higher productivity rate (0.052 per man-hour). These figures apply to mills which did their own logging. The average output of lumber (in thousand board-feet) per man-hour in mills which bought their logs was 0.084 in California, 0.129 in Oregon, and 0.131 in Washington. (Labor Review, October, 1932, p. 818. Based on data supplied

by the Bureau of the Census from the Census of Manufactures for 1929.)

Mining Industry

Coal Mining

Technological changes.—In 1926, 1.8 per cent of the total production of all bituminous mines in the United States was mechanically loaded according to the weekly coal report of the United States Bureau of Mines for the week of April 21, 1928. In some States, however, a considerable part of the output was loaded by machine. In Wyoming, for example, 17.6 per cent of the State output was loaded mechanically. In Indiana 13 mines making extensive use of loading devices handled 89.4 per cent of their output mechanically. (U. S. Bureau of Labor Statistics Bul. No. 491: Handbook of labor statistics, 1929 edition, p. 640.)

In 1930, the percentage of bituminous output loaded by machine had increased to 5.2, as shown by the bituminous coal tables of the Bureau of Mines for 1930. Wyoming had increased its mechanical loading to 41.5 per cent of its deep-mined output, while Alabama, which in 1926 applied mechanical loading to only 0.5 per cent of its output, had advanced to 1.4 per cent in 1930. "The high-wage-rate fields of the Rocky Mountains and the Middle West lead in the proportion of output produced by mechanical mining." (Labor Review, March, 1932, p. 558.)

The average output per man per day in coal mining in 1929 ranged from 1.43 tons in North Carolina to 10.34 tons in North Dakota, and averaged 5.63 tons for all States for underground workers; the average output on the basis of all employees (underground and surface) ranged from 1.25 tons in North Carolina to 7.90 in Montana, and averaged 4.85 for all States combined.

The productivity of the coal getter is determined largely by the extent to which machinery is employed. In North Carolina, the low-productivity area, 39 per cent was mined by hand, 61 per cent was shot off the solid; no machines were used. In Montana, 49.9 per cent of the output was machine cut, but 35.8 per cent was from strip mines; only 0.3 per cent was mined by hand.

Taking the industry as a whole, the percentage of coal cut by machine in 1929 was 75.4 per cent, as against 50.7 per cent in 1913 and 73.8 per cent in 1928. Machine cutting, however, is only part of the story. The use of mechanical loaders increased 75.6 per cent for the entire country between 1928 and 1929: 161.8 per cent in Illinois, 57.9 per cent in the bituminous fields of Pennsylvania, 35.8 per cent in Kentucky, and 23.2 per cent in West Virginia.

Mechanization of coal mines is responsible for most of the increase in output during the past 40 years. The output in the bituminous coal fields of the United States, per man per day, all employees considered, was 2.56 tons in 1890, or an average of 579 tons per man per year. In 1929 the average output for the entire country, all employees considered, was 4.85 tons per day, or 1,064 tons per year. In the anthracite field the increase was from 1.85 tons per man per day, or 369 tons per year, in 1890, to 2.17 tons per day, or 487 tons a year, in 1929. At the same time working-hours per day decreased from an average of 10 hours in 1890 to 8 hours in 1929. (Labor Review, December, 1930, p. 37. Based on data and reports of the U. S. Bureau of Mines.)

Bituminous coals of all grades are now produced from strip mines, and the per cent of total bituminous output produced by these mines increased from 0.6 in 1915 to 4.0 per cent in 1928, and "no immediate limit to the expansion of stripping is seen." More than one-third of the output is stripped by electrical equipment, with which the average output per man per day was 13 tons in 1928. In the Rosebud field of Montana an average of 48 tons of coal per man per day was mined from strip mines. The time required to produce a ton of coal was 0.65 man-hour in strip mines and 1.75 man-hours in deep mines. (Labor Review, July, 1931, p. 85. Review of U. S. Bureau of Mines, Economic Paper No. 11.)

Labor productivity.—Data covering 9,817 pick miners in 118 mines throughout the United States for a 2-week pay-roll period in 1919 show the productivity of hand labor in bituminous mines. The average output per miner for all coal fields was 6.8 tons per day of eight hours; the minimum output was 2.6 tons in a 22-inch seam in a Missouri mine; and the maximum, 12.9 tons in a 6-foot seam in Pennsylvania. (Labor Review, February, 1921, p. 1.)

The lowest productivity rate in mining coal in Illinois in the 11-year period, 1918–1928, was in 1922, when the average output per man per day was 4.8 tons. The highest rate, 6.9 tons per man per day, was achieved in 1926. In 1922, 98,681 men employed in 1,133 mines produced an average of 472,215 tons per day, while in 1926, 77,732 men in 921 mines averaged 532,925 tons per day. (Labor Review, October, 1929, p. 59. From Forty-seventh Illinois Coal Report.)

The man-hours required to produce 1 ton of bituminous coal show a steady decrease from 2.472 in 1911 to 1.668 in 1929. Productivity in anthracite mining does not vary markedly; the time required to produce a ton of anthracite was 3.754 man-hours in 1911 and 3.694 in 1929. This does not represent a maximum and minimum productivity rate, as was the case of the 1911 and 1929 rates in bituminous mining; the highest number of man-hours required to produce 1 ton of anthracite (4.362) occurred in 1914; and the minimum (3.465) in 1922. (Labor Review, April, 1931, p. 79. Abstract of U. S. Bureau of Mines, Report of investigations No. 3082, January, 1931.)

Anthracite workers employed underground were producing 2.63 tons per day worked in 1930 as compared with 2.75 tons in 1911. In bituminous coal mining, on the other hand, the output per day of underground workers increased 39.9 per cent between 1911 and 1930, from 4.01 tons to 5.61 tons. High productivity rates in 1930 were found in Wyoming (7.40 tons) where 48.6 per cent of the total output was loaded mechanically; Montana (7.16 tons) where 62.6 per cent was so loaded; and in Illinois (6.57 tons) where 48.3 per cent was thus loaded. (Labor Review, February, 1932, p. 292. Based on reports of U. S. Bureau of Mines.)

Printing and Publishing Industry

Government Printing Office

INCREASED efficiency and the improvement of equipment enabled the Government Printing Office to produce, in the 6-year period, 1921–1926, with 340 fewer employees, $8,000,000 more work than was turned out in the preceding six-year period, 1915–1920. The

printing division set 30,495,400 more ems of type in 1926 than in 1925; at the same time 140 fewer operators were employed and overtime was decreased 1,328 hours. The estimate is made that 1,200 compositors would be required to set by hand the quantity of type set annually by the 377 machines in the Government Printing Office. (Labor Review, April, 1927, p. 28. Based on annual report of Public Printer for year 1926.)

Newspaper Printing

High-speed machinery is the outstanding characteristic of the mechanical production of newspapers. While most of the inventions and improved equipment introduced since 1896 have been designed primarily to shorten the interval between receipt of news and its distribution to the public in newspaper form, the improvements have also affected labor productivity.

Composition by the hand method of 1896 on 4 present-day newspaper pages would require 40 employees working 10 hours. In 1916, 26 employees working 8 hours and using both machine and hand methods would have produced the same output, while the same job in 1926 required 21 employees working 7 hours.

Stereotyping consists of two separate operations—the molding of matrices and the casting of plates. The number of plates cast depends upon the number of presses to be operated and the numerical size of the edition to be run off. As circulation increases, more plates are necessary. Man-hour productivity is less important than clock time in the stereotyping department of a large daily paper. A decrease from 1916 to 1926 of 50 per cent (from 8 minutes to 4 minutes) in the actual time required to mold the matrix from the type and deliver the first plate to the press room was accompanied by a loss of 6 per cent in man-hour output of all employees engaged in stereotyping.

Comparative figures relative to output on the hand press and the early rotary press show that in 1896, 25 employees were required to print and fold 10,000 copies of a 4-page paper in 10 hours by hand methods, while 3 employees working on the rotary press of that period produced the same unit in 1 hour. In 1916 it required 1.79 man-hours to produce 10,000 copies of a 4-page section, while in 1926 the same output took 1.66 man-hours.

In 1896, before stereotyping was introduced, composition by the hand method, press work on hand presses, and folding by hand 10,000 copies of a 4-page newspaper involved an average of 635 man-hours. In 1926 the same number of copies of a printed and folded 4-page newspaper, requiring the combined processes of composition, stereotyping, and presswork, required an average of 174.4 man-hours, an increase of 264 per cent in output per man-hour. Thus, where 71 employees were required for 9 hours by the hand method in 1896, only 25 employees for 7 hours were necessary under machine production in 1926. Productivity per unit of measurement (i. e. 10,000 copies of a 4-page paper) in one establishment was: Composition, 204.3 man-hours in 1916, and 145.2 man-hours in 1926; stereotyping, 8.9 man-hours in 1916, and 10.6 man-hours in 1926; press work, 1.8 man-hours in 1916, and 1.7 man-hours in 1926. The total man-hours involved in all three processes had been lowered 26.8 per cent.

While technological changes tend to displace labor, such has not been the result in the newspaper business. Improved facilities and

the enormous increase in output made possible by power machinery have so expanded the market and enlarged the business that the demand for labor has increased greatly. One daily journal published 26,000 copies of a 4-page, 6-column paper in 1852, with "40 compositors and a handful of pressmen, fly boys, and other labor." In 1926 the mechanical staff alone employed by the same paper numbered 1,700, of whom 325 were compositors. Daily production of a paper averaging sixty-two 8-column pages (including daily and Sunday issues) amounted to 390,000 copies. (U. S. Bureau of Labor Statistics Bul. No. 475: Productivity of labor in newspaper printing.)

Transmission of News

Morse telegraphers engaged in the transmission of news have in the past 15 years been largely superseded by operators of the printer telegraph (teletype). This instrument is operated very much like a typewriter, and not only sends messages but prints them upon receiving machines, thus eliminating the telegrapher at the receiving end, because reception is automatic. The sending machine in teletype operation can transmit to as many receiving machines as its circuit carries. The speed of the printer is about twice that of the Morse operator.

Because of the growth of press associations, chain newspapers, and news-feature syndicates, all of which call for large sending organizations, the number of Morse operators engaged in newspaper work increased from 1,114 in 1915 to 1,549 in 1922. After the latter year the adoption of the printer telegraph (teletype), which had been introduced in 1915, grew rapidly. By 1931 only 586 Morse operators were employed by the principal news organizations. Teletype operators, on the other hand, who had numbered only 11 in news work in 1915, had increased to 335 in 1931. If Morse operators were required to render service equivalent in speed and sustained effort to that now possible with the teletype, 3,737 telegraphers would be necessary to do the work now done by 243 printers (i. e., 335 operators reduced to an equivalent full-time basis). "Expressed in another way, the productivity of the operator of the printer telegraph is more than fifteen times as great as the productivity of the Morse operator in this particular field." Fewer than 40 Morse telegraphers employed by press associations were retained as printer operators. (Labor Review, April, 1932, p. 753.)

Commercial Printing

The installation of automatic feeders on printing presses, and the introduction of self-feeding presses was not important up to 1913. In the 16 years following 1913, however, the increase was so rapid that two-thirds of all new installations of presses in commercial printing were mechanically fed. A study of two winter periods, 1923–24, and 1928–29, shows that notwithstanding this technical change, the number of men employed in commercial press rooms increased more than the number of presses. In 1924 an average of 99.2 men were employed per 100 presses, while in 1929 the average was 100.7 men per 100 presses. Further data suggest a pronounced change in occupation, if not in employment. Between 1924 and 1929 pressmen gained 4.6 men per 100 presses, while the assistants

(feeders) show a net loss of 3.2 men per 100 presses—11.4 hand feeders lost and 8.2 automatic feeder operators gained per 100 presses. In some cases employers are reducing the number of presses a pressman is required to attend, so that he may also operate the feeding machine; this, of course, means fewer feeders and more pressmen, and consequently more skilled labor. (Labor Review, February, 1931, p. 78. Review of study in American Economic Review, September, 1930, pp. 442–466.)

Shoe Industry

THE time required to make 100 pairs of shoes by the hand methods of 1863 was 1,831 hours, 40 minutes; by the hand and machine methods of 1895 it was 236 hours, 6 minutes; by the machine methods of 1916 it was 142.7 hours; and by the machine methods of 1923 it was 106.9 hours.

"The modern factory of to-day, with its power-driven machinery, can turn out 75,000 pairs [of shoes] every workday in the year." (U. S. Bureau of Labor Statistics Bul. No. 360: Time and labor cost in manufacturing 100 pairs of shoes.)

Man-hour productivity in the boot and shoe industry increased 24 per cent between 1914 and 1927, and 8 per cent between 1925 and 1927. (Labor Review, March, 1930, p. 1.)

Stone, Clay, and Glass Industries

INDEX numbers of growth of stone, clay, and glass products from 1899 to 1925, based on census data and using 1919 as 100, show an increase in physical volume of production from 67.3 in 1899 to 179.1 in 1925, or 166.1 per cent. Production per person engaged increased 58.1 per cent from 1899 to 1925 (from an index of 98.4 to 155.6), while the number of persons engaged in the industry increased 68.3 per cent. The number of persons engaged in the industry increased 15.1 per cent from 1919 to 1925, while in the same period production per person engaged increased 55.6 per cent and total production increased 79.1 per cent. (Labor Review, June, 1927, p. 54.)

Brickmaking

The time required in 1924 per 1,000 bricks in the stiff-mud process was 6.82 man-hours, in soft-mud process 8.74 hours, and in the dry-clay process 10.81 hours.

A large, efficiently organized plant equipped with the best improved machinery produced 249 bricks per man-hour, or 1,000 bricks in 4.02 hours; while a small, inadequately equipped plant not well organized or operated produced 56 bricks per man-hour, and required 17.73 man-hours to turn out 1,000 bricks. (U. S. Bureau of Labor Statistics Bul. No. 356: Productivity costs in the common-brick industry, 1924.)

A brick-making machine can make 49,000 bricks per hour and has a potential labor displacement of 80 per cent. (Labor Review, July, 1924, p. 4.)

Glass Manufacture

In no other industry has the introduction of machinery had a more dramatic effect upon labor productivity than in the glass industry. Comparative data on productivity and labor costs in hand and

machine production for each of the five branches into which the glass industry is divided—i. e., bottles and jars, pressed ware, blown ware, window glass, and plate glass—were shown by a study of the glass industry made by the United States Bureau of Labor Statistics. The following examples indicate what has taken place in this industry:

A hand shop, consisting of three skilled workers (a gatherer, a blower, and a finisher) and four helpers, produced on the average 3.75 gross of 4-ounce prescription ovals in an hour. The 1925 average output of the most up-to-date Owens automatic machine was 69.754 gross of 4-ounce prescription ovals per hour. The average output of the hand shop was 0.536 gross per man per hour, while with the automatic machine the average was 22.028 gross per man per hour, or more than 41 times as much as in the hand process.

The average output of table tumblers per man per hour in hand manufacture, using the side-lever press, was 31 pieces. An automatic machine with an automatic conveyor produced 380.71 pieces of the same article per man per hour, or more than 12 men could produce in an hour on the hand press.

An automatic machine produced 1,703.59 electric-light bulbs per man per hour, which is over 31 times as many as could be produced in the same time by the hand process. An automatic sheet-drawing machine will produce window glass at 2½ times the rate of production of the hand process.

In the course of the 25 years (1899 to 1925) in which the change from hand manufacture to semiautomatic and then to automatic machine production took place, the number of establishments in the glass industry decreased 12.7 per cent, while the number of wage earners increased 31.3 per cent and the average number of wage earners per establishment increased 50.3 per cent. Under hand manufacture, the glass industry operated almost wholly on a small-unit basis, but with the introduction of machinery that condition changed entirely. Large-scale production has converted the industry into a well-integrated one, with large plants representing large capital investment.

The most pronounced change in the industry has been in the character of the labor force. Hand production called for highly specialized skill and a long apprenticeship, and the common labor necessary was done in large part by children. Under machine production the workers are mechanics and machine operators, and child labor has been wholly eliminated. (U. S. Bureau of Labor Statistics Bul. No. 441: Productivity of labor in the glass industry, 1927.)

In 1925 the comparative output of plate glass per employee in the United States was 9,698 square feet, as against 4,430 square feet in Belgium. (Labor Review, June, 1927, p. 116. Based on report of U. S. Tariff Commission.)

Pottery Manufacture

In the manufacture of semivitreous ware, productivity is expressed in crew-hours rather than in man-hours. The average production of 7-inch plain-edged plates, based on data for 58 crews, was 28.1 dozen plates per crew-hour, the crew consisting of a jigger man, a batter-out, a mold runner, and a finisher, and a clay carrier for part of the time. The maximum production, reached by five crews, was 32 to 36 dozen; and the minimum production, averaging less than 20 dozen plates

per crew-hour, was reported for two crews. The average production of saucers by 48 crews similarly constituted was 42.8 dozen per crew per hour; one crew attained a maximum production of 50 to 52 dozen; the two crews with the lowest production turned out between 32 and 36 dozen saucers per crew per hour. Crews making teacups consisted of a jigger man, a baller, and a mold runner, and a clay carrier part of the time. Data for 42 crews showed an average production of 53 dozen cups per crew-hour; the maximum production was 68.8 dozen (one crew) and the minimum 32 to 34 dozen. (U. S. Bureau of Labor Statistics Bul. No. 439: Handbook of labor statistics, 1924–1926, p. 542.)

Since the war the successful introduction of a casting process in the manufacture of certain hollow ware has eliminated the skilled hand worker in the sanitary branch of the industry. After three weeks' training an unskilled worker using this process can cast more pieces in a day than a skilled craftsman can make by the hand method. (Labor Review, November, 1927, p. 43. Review of article in Journal of Political Economy, August, 1927, pp. 522–542.)

Data on productivity of labor in an English pottery show a maximum output of 192 plates per crew per hour. A crew consists of one jigger man, and a mold runner and a finisher, both of whom are women. (Labor Review, December, 1926, p. 114.)

Productivity figures in the pottery industry in Germany are based upon output per man instead of per crew. Working alone and doing his own finishing, a jigger man will make 3,000 7-inch plates or 4,800 saucers in a 48-hour week. A jigger man and a spreader working together can turn out 7,800 saucers in a 48-hour week. A jigger man working alone can in a week make 3,300 cups and finish the edges. One person working alone will cast and place handles at the rate of 3,300 cups per week. (Labor Review, December, 1926, p. 129.)

Telephone and Telegraph Industry

Telephone

THE complete substitution of the dial telephone system for the manual system will apparently decrease employment opportunities for operators by about two-thirds. In 1921 dial telephones formed 2.7 per cent of the total number in the Bell system. The number of operators in the Bell system was 118,470, and they handled an average of 1,260,619,367 calls (local and toll combined) per month, or 10,641 per operator. In 1930, 31.9 per cent of the total number of telephones in the Bell system were dial operated, and 143,979 operators were employed. They handled an average of 2,270,756,065 calls per month, or 15,771 per operator, an increase of 48.2 per cent over the operator productivity of 1921.

If the number of connections demanded in 1930 had been made manually on the basis of the output per operator prevailing in 1921, 69,421 additional operators would have been needed. Hence the lost employment opportunities represented by actual installations is 32.5 per cent. With the extension of the dial program, however, the per cent of loss of employment opportunities will not keep pace with the per cent of automatic installations, because operators will still be needed for special services, long-distance connections, etc. (Labor Review, February, 1932, p. 235.)

Telegraph

Commercial telegraphy.—The printer telegraph has reduced the proportion of Morse telegraphers in commercial telegraph offices to 21.5 per cent of all operators. By 1931 printer circuits accounted for nearly 90 per cent of all commercial-message handlings of one large company. In the principal telegraph offices the productivity of printer operators averages about twice that of Morse operators, with a resulting technological displacement of about 50 per cent. This means not only the elimination of the skilled Morse telegrapher but the substitution of women for men. The training required to operate a printer telegraph is practically the same as for operating a typewriter, and any good typist can operate a teletype.

At the end of June, 1931, in all of the commercial telegraph offices of the major companies, there were 3,678 Morse manual operators, constituting 21.5 per cent of the total number of operators employed. Of these 3,678 Morse operators, 83.9 per cent were men. Multiplex printer operators numbered 5,127, or 30.1 per cent of the total number of operators. Women comprised 83.6 per cent of the multiplex printer operators. The largest single group was the simplex printer operators, who numbered 8,249 and represented almost half (48.4 per cent) of the total number employed. Of these, 66.6 per cent were women. In 1931 women constituted 60.8 per cent of the total of all classes combined, while in 1902, when the Morse system was used exclusively, only 22.3 per cent of the operators were women.

One leading telegraph company instituted training schools to give Morse operators the opportunity to learn the simplex method of telegraphy. At the end of July, 1931, as a result of that policy, 31.2 per cent of the total number of simplex operators employed in functional offices were former Morse operators. Of the male simplex operators so employed 58.8 per cent had changed from the Morse to the new system. (Labor Review, March, 1932, p. 501.)

Ticker telegraphy.—The new high-speed ticker for handling stock-market quotations is a most remarkable labor-saving mechanism. For example, on a given day, with 17 operators it automatically printed the New York stock exchange quotations on 8,623 stock tickers in 43 States and Territories, and in Canada, with circuits in 377 cities. The 17 operators also handled the transmission of bond quotations which were automatically recorded on 928 bond tickers.

In 1890 some 395 tickers were in daily use in the financial district of New York City, employing 8 operators and 12 other employees. In 1930 the number of tickers had increased to 3,812, the number of operators to 17, and the total number of employees to 157. Taking 1890 as the base, or 100, the index of changes in output per operator ranged from 100 in 1890 to 1,695 in 1930, practically a 1,600 per cent increase, while the productivity of all employees combined ranged from 100 in 1890 to 459 in 1930, more than a 350 per cent increase. Taking 1920 as the base, or 100, the index of productivity of operators more than tripled, ranging from 100 in 1920 to 311 in 1930, while the index for all employees ranged from 100 in 1920 to 145 in 1930. On the basis of 1890 productivity, 288 operators instead of 17 would be required for the output of 1930; on the basis of 1920 productivity, 53 operators would be required for the output of 1930.

Actual displacement, however, exceeds hypothetical displacement. Outside of a few great centers, particularly the financial district of

New York, both the transmission and reception of market quotations were formerly handled by Morse telegraphers who served newspapers and brokers' offices. This service has now been almost entirely eliminated by the use of tickers and teletype service. Reception in many brokers' offices is now handled by the "teleregister," a device which automatically displays market changes in customers' offices, and by a magnified and illuminated projection of the moving ticker tape on a screen. By 1931 teleregisters had been installed in more than 200 brokers' offices as far west as Chicago, with remoter installations planned, all handled by a single operating center in New York City. The extent of displacements as a result of these various technological changes can not be measured statistically, but in the aggregate it is very large. (Labor Review, June, 1932, p. 1269.)

Private-wire systems.—Private-wire systems include private telephone exchanges, railroad wires, leased wire circuits of news agencies, the lines of brokers and investment bankers, networks used for transmitting radio programs, and wires used for interior communication in industrial establishments, institutions, etc. Private branch exchange telephones, while increasing in number, have continued in practically the same ratio to the total number of telephones in the Bell system since 1921, constituting about 19 per cent of the total. In large cities the proportion of private branch exchanges is much larger than for the entire country. The number of operators required to handle private branch exchange business was estimated by telephone officials in 1931 at 135,000 for exchanges connected with the Bell System, and at 145,000 for the entire country. Information on the extent of transition from manual to dial operation in private exchanges is not readily available, but it has not been so material as in the public exchanges. Private telephone employment has thus provided opportunities for telephone operators displaced by the machine in the wider field of public service. With the progressive extension of automatic operation to private exchanges, however, those opportunities will necessarily shrink. (Labor Review, July, 1932, p. 9.)

Railroad Telegraphy

See under Transportation.

News Transmission

See under Printing and Publishing.

Textile Industry

Census data indicating the growth of the manufacture of textiles and their products show the following percentages of increases from 1899 to 1925: In physical volume of production, 96.5; number of persons engaged, 63.5; primary horsepower, 190.4; and production per person engaged, 20.2 per cent. (Labor Review, June, 1927, p. 54.)

Ribbons

A comparison of average output per man per hour in ribbon weaving in two selected periods in 1920 (February and April), between which a reduction in working hours had occurred, shows that 1.25 yards of 4½-inch satin taffeta ribbon were produced per man-hour in February,

and 1.4 yards in April; 1.023 yards of 7-inch satin ribbon in February and 1.043 in April; and 1.137 yards of 5¼-inch taffeta in February and 1.095 in April. (Labor Review, July, 1922, p. 9.)

Cotton

A comparative study of labor productivity covering one mill manufacturing gray cloths, for a specified pay-roll period in 1911, 1916, and 1925, showed that the output of yarn for the entire process was 10.08 pounds per man-hour in 1911, 10.57 pounds in 1916, and 11.59 pounds in 1925. In spinning only, the productivity per man-hour for these three years was 45.09 pounds, 43.12 pounds, and 48.60 pounds. Productivity of weavers per man-hour, expressed in pounds, was 13.65 in 1911, 16.53 in 1916, and 24.49 in 1925. The output of cloth (entire process) was 7.95 pounds per man-hour in 1911, 8.26 pounds in 1916, and 10.31 pounds in 1925. Productivity per man-hour in the cloth finishing department, expressed in pounds, was 56.62 in 1911, 74.63 in 1916, and 63.40 in 1925; expressed in yards it was 135.47 in 1911, 192.38 in 1916, and 158.14 in 1925.

Productive labor in this study included supervisory employees (overseers and superintendents), machinists, engineers and firemen, carpenters, electricians, watchmen, and any others necessary to plant operation, as well as textile operatives.

The general increase in man-hour productivity during the 15-year period was due in great measure to the installation of modern equipment or labor-saving devices. To a considerable extent, also, it was due to better organization of the plant and more efficient management of the work. Changes and improvement in equipment in the spinning department between 1911 and 1916 called for additional workers. While apparently the personnel of that department was increased by 29 between 1911 and 1916 and by a few more between 1916 and 1925, the number of full-time workers shows an increase of only 3 between 1911 and 1916, and a reduction of 13 between 1916 and 1925. This decrease was due to the elimination of spare hands.

The introduction of automatic looms in the weaving department resulted in displacing 26 full-time weavers between 1911 and 1916, although 150 more looms were in operation in 1916 than in 1911. Further increases in the number of looms between 1916 and 1925 reduced the number of full-time weavers from 188 to 150, and one loom fixer was dropped, but with the addition of workers in maintenance operations the actual reduction of the weave-room force was 24. Improved inspection methods resulted in an increase of 11 in the cloth-inspection force between 1916 and 1925 but other workers were dropped, making a net inerease of 7 in the finishing department. (Labor Review, September, 1926, p. 7.)

Data on man-hour production of cotton sheeting of standard grade (40-inch width, 47 picks to the inch) in the same establishment from 1838 to 1925, as given in a study made by the research department of the Women's Educational and Industrial Union of Boston, show the following changes: 1838, 0.98 pound; 1850, 1.21 pounds; 1876, 2.24 pounds; 1890, 3.31 pounds; 1910, 5.00 pounds; 1919, 4.98 pounds; and 1925, 7.53 pounds.

The increase of 88 per cent in productivity in 1876 over 1850 followed technical improvements in the industry, the most notable of which were the change from throstle to ring spinning and the

introduction of multiple-loom operation resulting from the invention of the first stop-motion device. The next period of marked increase in productivity was 1919 to 1925, showing a 111 per cent increase in 1925 over 1919. During this period a new, up-to-date mill was erected, equipped with the most modern machinery and planned by efficiency engineers to eliminate unnecessary processes and to coordinate movements of material and workers.

In 1910, 302 weavers were employed in the weave room; in 1925 there were 66 weavers, 47 weavers' helpers, and 34 workers in new occupations created by the power looms. The work of the weavers in 1925 consisted entirely in watching the passage of the cloth through the looms and tying broken ends. The shuttles were threaded by the weavers' helpers. The average number of workers employed in the mill was 35.5 per cent lower in 1925 than in 1919, and the output per man per hour was 19.9 per cent higher. (Labor Review, October, 1926, p. 21.)

Woolen and Worsted

A large proportion of the woolen and worsted manufacturing plants in the United States perform all the processes of manufacture from the wool in the grease to the completed cloth packed ready for shipment. In the European countries the work is much more specialized. Some plants are spinning mills only, some weave only, and some do dyeing and finishing only. Only a small proportion of the establishments carry out all the processes of cloth production. The automatic loom is quite generally used in American worsted mills, but has been adopted to a very limited extent in Europe, the actual number of such looms being very small.

A comparison in the man-hour production in the woolen and worsted manufacturing establishments of the United States with the man-hour production of selected sample fabrics of identical loom analysis in similar establishments in foreign countries shows the following:

Sample 1: Total time required per yard—American mill, 0.8547 hour; English mill, 1.4473 hours. The American weaver tended six looms set at a speed of 120 picks per minute: the English weaver tended two looms of the same speed.

Sample 7: Total time required per yard—American mill, 0.9788 hour; English mill, 1.4510 hours; German mill, 1.6277 hours. The American weaver tended six looms and the German weaver two looms with a speed of 120 picks per minute; the English weaver tended two looms of 130-pick speed. The number of yards produced per loom per week of 48 hours was 109.5 in the United States, 118 in England, and 93 in Germany.

Sample 12: Total time required per yard—American mill, 0.5683 hour; English mill, 0.9988 hour; French mill, 0.9885 hour. The French and English weavers each tended only one loom, geared to 96 picks per minute. The American weaver ran two looms operating at 100 picks per minute.

The time consumed in dressing and weaving one yard of 54-inch broadcloth was 0.5100 man-hour in the American mill, 0.5630 man-hour in the English mill, and 0.8800 hour in the German mill. The American ran two looms at 112 picks per minute and produced 124 yards per loom in a 48-hour week. The English and the German weavers tended only one loom each, of 80-pick speed, producing in a

48-hour week 140 yards per loom in the English mill and 98 yards per loom in the German mill. (Labor Review, September, 1928, p. 1.)

Transportation

Railroads

Labor productivity.—Considering all employees engaged in railroad work—executives, officials, professional men, clerks, and all employees doing railroad work of whatever nature—96.03 tons of freight and 8.08 passengers were moved a distance of 1 mile per man-hour in 1924, as compared with 94.21 tons of freight and 7.82 passengers in 1923, and 88.62 tons of freight and 8.37 passengers in 1922. Eliminating all employees except those actually engaged in transportation, 293.27 tons of freight and 24.67 passengers were transported 1 mile per man-hour in 1924, as compared with 290.36 tons of freight and 24.12 passengers in 1923, and 267.68 tons of freight and 25.29 passengers in 1922. Continuing the process of elimination, road freight employees actually handling the trains moved 1,070.05 ton-miles of freight per man-hour in 1924, 993.55 ton-miles in 1923, and 971.19 in 1922. Road passenger employees produced 305.69 passenger-miles per man-hour in 1924, 316.20 in 1923, and 304.63 in 1922. (Labor Review, April, 1926. p. 72. Based on data compiled by Interstate Commerce Commission.)

Interstate Commerce Commission reports for January, 1926, showed that the average amount of coal shoveled by railroad firemen in road service was as follows: Freight firemen in the eastern district, 7.6 tons per average day (263.7 pounds per locomotive-mile); and in the southern district, 7.8 tons per day (270.3 pounds per locomotive-mile); passenger firemen in the eastern district, 7.3 tons per day (114.8 pounds per locomotive-mile); and in the southern district, 7.5 tons per day, or 119.0 pounds per locomotive-mile. (Labor Review, June, 1926, p. 74.)

The development in the size and power of locomotive engines during the last two decades has brought about an increase in the labor and the productivity of firemen. Estimates based on Interstate Commerce Commission statistics indicate that from 1903 to 1925 gross ton-miles per train-hour increased 135 per cent, and from 1921 to 1926 they increased 39 per cent. (Labor Review, September, 1927, p. 35.)

The productive output of railroad labor has increased about 40 per cent since 1915 and about 150 per cent since 1890. (Labor Review, March, 1927, p. 1.)

Technological changes.—Automatic signals are rapidly displacing watchmen and gatemen at highway crossings. The per cent of displacement ranges from about 50 per cent where combined manual and automatic control is used, to 100 per cent where control is wholly automatic. The estimated number of employment opportunities lost through the installation of automatic signal devices and elimination of grade crossings up to 1930 is 44,343. Grade crossings guarded by watchmen operating gates or hand signals constituted 53.7 per cent of the total number of protected crossings in 1924 and 38.7 per cent in 1930. Automatically controlled crossings constituted 61.3 per cent of all protected grade crossings in 1930. The average number of gatemen and flagmen actually on duty at crossings dropped

from 23,007 in 1924 to 19,835 in 1930. Specific examples show reduction of staff from 111 to 57; from 27 to 9, etc., after installation of automatic devices in given areas. (Labor Review, April, 1932, p. 759.)

Telephones, printer telegraphs, automatic block-signal systems, interlocking machines, and centralized traffic control systems used in the movement of trains are rapidly eliminating the telegraph formerly used to transmit train orders, and are thus displacing Morse operators. Printer-telegraph machines used in handling freight-yard traffic are displacing not only Morse telegraph operators but messengers. Information relating to train movements and orders, formerly furnished to the dispatching service by telegraphers and telephoners, now comes through moving lights on a miniature railway system or by an automatic graph which provides a permanent record. Employment in the train-movement group known as telegraphers, telephoners, and towermen declined from 27,226 in 1921 to 18,185 at the close of 1931, a decline of 33.2 per cent. Messengers and office assistants, who were affected by the use of the telephone and teletype on local and intraoffice circuits, dropped from 6,819 in 1921 to 4,642 at the end of 1931, or 31.9 per cent. The decline in employment level between 1921 and 1931 of the entire group of railroad employees classed as communications group, which has been most definitely affected by the technological changes under discussion, was 24.2 per cent.

A centralized traffic-control installation governing 43 miles of single and 19 miles of double track took over the handling of 131 signals and switches and dispensed with 16 operators. A centralized traffic-control machine installed in an interlocking tower regulated traffic on 30.3 miles of single track and displaced 7 telegraphers; in a similar instance involving 33.7 miles of road 11 operators were released. Where train orders are transmitted by teletype there may be no numerical displacement, but typists take the place of skilled Morse operators. Telephony in railroading is passing from manual to automatic operation through the dial system. (Labor Review, May, 1932, p. 1017.)

Water

The number of persons employed on American vessels, as shown by the fifth census of water transportation taken by the United States Bureau of the Census in 1926, increased from 178,593 in 1916 to 204,393 in 1926, or 14.4 per cent. Two-thirds of the total number were engaged in the freight and passenger service in 1926. In that year the number of passengers per employee had increased 26.0 per cent over the number for 1916, and 51.7 per cent more freight was handled per employee, a very substantial increase in productivity for the decade. (Labor Review, July, 1929, p. 82.)

British statistics show a decrease in the total number of employees necessary to operate a given tonnage of shipping, from 2,132 per 100,000 net tons in 1911 to 2,084 in 1926. These figures also show an interesting shift in distribution. The number of persons employed in both deck and engine departments decreased between 1911 and 1926, while the steward's department and "other employees" increased materially. "The decrease in the number of persons employed in the engine room may be attributed partly to the increased use of fuel oil by steamships and partly to the increased employment of

motor vessels." The increase in the group of "other employees" may be accounted for by the large growth in the luxury type of passenger vessels, this group thus including wireless operators, and musicians, entertainers, and persons in similar occupations connected with social activities on such liners. (Labor Review, November, 1927, p. 30. Based on British census of seamen.)

Longshore labor.—A study of longshore labor efficiency at the port of New York by the National Adjustment Commission covering the years 1914, 1919, and 1920, gives the amount of general cargo loaded per man-hour as 0.91 ton in 1914, 0.44 ton in 1919, and 0.52 ton in 1920. Bureau of Labor Statistics figures (based on data from United States Shipping Board) give output in loading and discharging operations of representative ships of the Emergency Fleet Corporation at seven specified ports, for 1922. The amount of general cargo loaded per man-hour varied from 0.60 ton at the port of Boston to 1.70 tons at Seattle, with a total of 1.23 tons for all ports. The amount handled per man-hour in discharging ranged from 0.69 ton at Baltimore to 1.14 tons at Norfolk, with a total of 0.87 ton for all ports. (Labor Review, February, 1924, p. 109.)

By the installation of platform trucks in longshore operations five trucks manned only by drivers can now do the work done by a crew of 16 men formerly used to work two bulkheads. Transferring a crated automobile a couple of hundred feet, which formerly required 10 to 15 men and sometimes required 20 to 30 minutes, can now be done in a few minutes of one man's time, without physical effort, by using a power truck. (Labor Review, October, 1926, p. 32. Quoting Harold J. Payne, in the Pacific Marine Review, August, 1926, p. 366.)

The findings of a Bureau of Labor Statistics field study of productivity of labor in loading and discharging ship cargoes in foreign, intercoastal, and coastwise trade in the major American ports were in part as follows.

In discharging foreign cargo the average productivity per man-hour is shown to vary from 0.57 long ton for the big passenger liners in New York to 1.85 long tons in the oriental trade of Portland, Oreg. In the intercoastal trade, productivity per man-hour varies from 0.53 short ton in Charleston to 1.32 short tons in Mobile; and in the coastwise trade from 0.51 long ton in Galveston to 1.54 short tons in Los Angeles.

In loading foreign-trade cargo the productivity per man-hour varies from 0.50 long ton for Charleston, S. C., to 1.45 long tons for Mobile. In the intercoastal trade the variations in loading are from 0.53 short ton per man-hour in Boston to 1.28 short tons in Portland, Oreg. In the coastwise trade the loading productivity per man-hour varies from 0.69 short ton in Charleston to 1.51 short tons in Seattle and Galveston.

Productivity rates vary widely as between ships with maximum and those with minimum efficiency. For example, in discharging cargo in intercoastal trade in Seattle the range is from 2.38 long tons to 0.77 long ton per man-hour.

Pier and ship equipment are of primary importance in determining efficiency of the port and productivity of longshore labor. The speed of the winches, or "ship's gear," and their location with relation to the hatchways very largely determine productivity in handling a ship's cargo. In this respect the intercoastal liners, as a group, are better

equipped than are the foreign-trade ships, as their winches are more powerful and efficient. Some winches on the west coast, particularly those used in discharging raw sugar at San Francisco, are capable of handling 150 or more loads per hour, while 40 to 50 loads per hour is fairly representative of the capacity of the majority of winches found on foreign-trade vessels. The intercoastal winches are not only more efficient in handling cargo, but they require a smaller gang than is needed for the average winch.

Equipment other than ship's gear must be used to move cargo between the shed and the apron of the pier, and still other devices must be used for piling cargo. The common 2-wheel hand truck is still used on many piers to handle cargo between the shed and the apron of the pier. It is, however, rapidly being replaced by power platform trucks on the more modern docks. Portable conveyors are also used in several instances. Hand processes for piling cargo are used to some extent, particularly in handling raw sugar, but most ports use some sort of mechanical device for stacking, with resulting large reductions in the cost of that process. Cargo stowage is still hand labor, and should be regarded as skilled labor, as it requires experience and judgment to insure the safety both of the cargo and of the ship in passage. With the exception of an occasional application of gravity rollers and dollies, practically no device of any kind is used to facilitate transfer of individual pieces of cargo from the center of the hatch to their place of stowage, which may be some 30 to 50 feet from the center of the hatch.

Special equipment is provided at some piers for discharging individual commodities in which the pier specializes. In handling bananas, for instance, pocket belt conveyors are generally used. In New Orleans and Mobile these conveyors constitute permanent equipment of the banana piers. Before the conveyor system was introduced in the port of New York, in 1925, the average productivity for 66 ships handled by one line was 12.42 stems of bananas per man-hour. In 1928 with the conveyor system in operation, the average productivity for 97 ships handled by the same concern was 18.37 stems per man-hour, an increase of nearly 50 per cent in man-hour output. Improved equipment and processes used in discharging raw sugar have increased productivity in one instance from 14.1 Cuban bags per man-hour with a gang of 29 longshoremen in 1923, to 27.1 bags per man-hour with a gang of 22 men in 1928. (U. S. Bureau of Labor Statistics Bul. No. 550: Cargo handling and longshore labor conditions, 1931.)

United States Government

Postal Service

Efficiency in the handling of mails by the United States Postal Service has been promoted in recent years both by mechanization and by improved administrative methods. Mechanical tables, canceling and postmarking machines, automatic conveyors, and automotive transportation are among the mechanical devices which have been instituted to expedite the handling and distribution of both letter and package mail.

The index of productivity in the Postal Service increased from a base of 100.0 in 1908 to 171.8 in 1930, declining, because of falling off

in business, to 163.4 in 1931. The index of total volume of output handled rose from 100.0 in 1908 to 265.2 in 1930 and fell to 249.4 in 1931.

Estimating output on the basis of 1908 efficiency, at which time the average output per employee was 82,086 units, 196,623 more employees would have been required to handle the peak load of 1930 than were actually employed, and in 1931 the employment of an additional 171,739 workers would have been necessary. Thus, the per cent of employment opportunities lost through greater efficiency in the Postal Service increased from 9.2 per cent in 1910 to 40.2 in 1926 and 41.8 in 1930. The decrease in the amount of postal business brought the figure for 1931 below that of 1926, or to 38.8 per cent. (Labor Review, October, 1932, p. 745.)

Increase in Labor Productivity, 1898 to 1927

COMPUTATIONS of the increase in total productivity and in output per worker during the 30 years from 1898 to 1927 in the principal branches of American industry are contained in the annual report of the Secretary of Commerce for the fiscal year ended June 30, 1928. The table presented below shows indexes of gain in efficiency of industry and is compiled from the data contained in the report of the Secretary. This table, which even in years covered by census statistics necessarily involves a considerable resort to estimation, nevertheless shows within a reasonable margin the true tendency of American industry since the beginning of the century and in the years immediately following the close of the World War.

INDEXES OF GAIN IN EFFICIENCY OF INDUSTRY [1]

[Data for manufactures refer to 1899, 1919, and 1927. Other data are averages for the periods 1898–1900, 1918–1920, and 1926–27]

Industry	Number of workers		Indexes on base 1898–1900=100			Value of output, 1898–1900, used for weighting
	1898–1900	1926–27	Number of workers	Quantitative output	Output per worker	
Agriculture	10,700,000	10,500,000	98	155	157	3,500,000,000
Mining	600,000	1,050,000	176	379	215	600,000,000
Manufactures	5,300,000	9,880,000	186½	279	149½	4,830,000,000
Rail transportation	975,000	1,865,000	191½	308	161	1,300,000,000
Total or average	17,575,000	23,295,000	132.5	246 208½	185½ 157	10,230,000,000

Industry	Number of workers		Indexes on base 1918–1920=100			Value of output, 1918–1920, used for weighting
	1918–1920	1926–27	Number of workers	Quantitative output	Output per worker	
Agriculture	11,300,000	10,500,000	93	118	127	15,700,000,000
Mining	1,050,000	1,050,000	100	138	138	3,175,000,000
Manufactures	10,675,000	9,725,000	91	130½	143	24,750,000,000
Rail transportation	2,035,000	1,865,000	91½	102½	112	4,725,000,000
Total or average	25,060,000	23,140,000	[2] 92.3	[3] 124 [4] 123	134½ 133	48,350,000,000

[1] Given in U. S. Bureau of Labor Statistics, Bul. No. 491, p. 619.
[2] Actual change in number of workers.
[3] Weighted by value.
[4] Weighted by workers.

Output per Employee in Manufacturing Industries, 1919 to 1925

UPON completion of the 1925 Census of Manufactures the United States Department of Commerce compiled a table showing, by census years from 1899 to 1925 and by principal industries, index numbers of the total number of persons engaged in manufacturing industries and of the physical volume of production. This table is reproduced below, the only change being the addition of the line showing "production per person engaged" in each industry group, these figures having been computed by the Bureau of Labor Statistics from the basic data given in the original statement. In comparing these figures with somewhat similar ones published in studies by the Bureau of Labor Statistics, it is to be noted that these figures relate to all "persons employed" and not merely to wage earners, and thus include office and supervisory employees.

INDEX NUMBERS SHOWING GROWTH OF MANUFACTURES, BY INDUSTRIAL GROUPS, 1899 TO 1925 [1]

[The data for "All industries" given in this table for number of persons engaged and primary horsepower are based upon complete census totals, but those for the individual groups are derived from figures covering only those industries directly represented in the index; i. e., those industries for which statistics are available showing the physical volume of output of their principal products. Such industries comprise about 50 per cent of all industries, as measured by number of persons engaged, primary horsepower, or value added by manufacture, but among the several groups this proportion varies from about 20 per cent for paper and printing to practically 100 per cent for tobacco products. Although the index is probably a reliable measure of changes in output for manufactures as a whole and for a number of individual groups, yet for a few groups, owing to limitations of data, the index is not typical of the entire groups represented. For this reason the three sets of data have been made to cover the same industries in each group, and are to that extent comparable.]

Industry group	Index numbers (1919=100.0)								Per cent of increase 1899–1925
	1925	1923	1921	1919	1914	1909	1904	1899	
All industries:									
Physical volume of production	128.6	122.1	79.3	100.0	78.1	73.5	56.4	46.2	172.4
Number of persons engaged	91.4	96.2	77.3	100.0	76.4	71.0	57.5	48.9	86.9
Primary horsepower	121.8	112.8	-------	100.0	76.0	63.3	45.7	34.2	256.1
Production per person engaged	140.7	126.9	102.6	100.0	102.2	103.5	98.1	94.5	49.0
Food and kindred products:									
Physical volume of production	116.4	111.6	93.5	100.0	80.8	74.8	65.1	53.0	119.6
Number of persons engaged	81.3	83.5	76.1	100.0	71.1	62.7	53.8	49.2	65.2
Primary horsepower	115.8	107.6	-------	100.0	81.5	70.4	60.7	49.1	135.8
Production per person engaged	143.2	133.7	122.9	100.0	113.6	119.3	121.0	107.7	33.0
Textiles and their products:									
Physical volume of production	119.3	122.9	96.8	100.0	96.8	91.9	71.9	60.7	96.5
Number of persons engaged	104.5	111.1	95.0	100.0	89.3	85.2	71.7	63.9	63.5
Primary horsepower	126.6	116.7	-------	100.0	83.7	70.0	53.9	43.6	190.4
Production per person engaged	114.2	110.6	101.9	100.0	108.4	107.9	100.3	95.0	20.2
Iron and steel and their products:									
Physical volume of production	131.5	131.2	56.6	100.0	71.1	75.3	51.8	43.2	204.4
Number of persons engaged	95.6	102.1	65.5	100.0	68.2	58.3	46.3	38.9	145.8
Primary horsepower	114.1	110.3	-------	100.0	71.1	59.1	43.0	28.0	307.5
Production per person engaged	137.6	128.5	86.4	100.0	104.3	129.2	111.9	111.1	23.9
Lumber:									
Physical volume of production	113.6	110.1	79.9	100.0	110.6	137.3	104.0	106.4	6.8
Number of persons engaged	94.1	98.9	73.9	100.0	99.5	113.9	83.0	87.4	7.7
Primary horsepower	86.9	81.9	-------	100.0	92.9	98.2	63.2	58.3	49.1
Production per person engaged	120.7	111.3	108.1	100.0	111.2	120.6	125.3	121.7	[2] .8
Leather and its remanufactures:									
Physical volume of production	93.4	105.6	85.2	100.0	87.4	87.7	81.5	69.8	33.8
Number of persons engaged	90.6	99.8	81.8	100.0	85.7	84.7	70.1	65.4	38.5
Primary horsepower	106.9	105.9	-------	100.0	80.5	69.1	51.2	40.8	162.0
Production per person engaged	103.1	105.8	104.2	100.0	102.0	103.5	116.3	106.7	[2] 3.4
Paper and printing and related industries:									
Physical volume of production	152.8	137.1	93.4	100.0	87.5	69.8	51.9	36.6	317.5
Number of persons engaged	108.8	106.5	92.4	100.0	76.5	65.2	56.1	42.4	156.6
Primary horsepower	131.1	117.7	-------	100.0	87.6	70.5	59.1	41.2	218.2
Production per person engaged	140.4	128.7	101.1	100.0	114.4	107.1	92.5	86.3	62.8

[1] Labor Review, June, 1927, p. 52.
[2] Decrease.

INDEX NUMBERS SHOWING GROWTH OF MANUFACTURES, BY INDUSTRIAL GROUPS, 1899 TO 1925—Continued

Industry group	Index numbers (1919=100.0)								Per cent of increase 1899-1925
	1925	1923	1921	1919	1914	1909	1904	1899	
Chemicals and allied products:									
Physical volume of production	140.6	125.1	94.5	100.0	70.7	58.8	42.9	30.2	365.6
Number of persons engaged	91.8	95.7	77.6	100.0	70.3	60.5	49.5	42.3	117.0
Primary horsepower	147.1	134.8	-------	100.0	72.6	49.6	35.0	21.9	571.7
Production per person engaged	153.2	130.7	121.8	100.0	100.6	97.2	86.7	71.4	114.6
Stone, clay, and glass products:									
Physical volume of production	179.1	155.6	93.3	100.0	113.5	104.3	78.9	67.3	166.1
Number of persons engaged	115.1	115.7	84.1	100.0	110.4	95.4	81.8	68.4	68.3
Primary horsepower	151.5	124.7	-------	100.0	98.4	74.9	44.6	28.0	441.1
Production per person engaged	155.6	134.5	110.9	100.0	102.8	109.3	96.5	98.4	58.1
Metals and metal products other than iron and steel:									
Physical volume of production	132.4	125.7	66.5	100.0	64.9	60.6	44.5	31.4	321.7
Number of persons engaged	81.2	91.2	53.6	100.0	66.4	61.2	51.6	43.3	87.5
Primary horsepower	114.0	117.5	-------	100.0	53.8	44.1	28.3	19.8	475.8
Production per person engaged	163.1	137.8	124.1	100.0	97.7	99.0	86.2	72.5	125.0
Tobacco manufactures:									
Physical volume of production	124.4	109.8	95.3	100.0	76.4	66.6	57.8	46.3	168.7
Number of persons engaged	79.9	91.2	93.4	100.0	116.3	108.9	103.4	86.6	[2] 7.7
Primary horsepower	97.0	100.3	-------	100.0	80.5	65.7	56.7	51.4	88.7
Production per person engaged	155.7	120.4	102.0	100.0	65.7	61.2	55.9	53.5	191.0
Vehicles for land transportation:									
Physical volume of production	238.3	199.5	76.8	100.0	36.0	17.8	9.3	5.0	4,666.0
Number of persons engaged	108.3	114.8	65.2	100.0	54.9	42.5	29.9	25.4	326.4
Primary horsepower	182.5	148.9	-------	100.0	51.2	35.6	19.5	13.4	1,261.9
Production per person engaged	220.0	173.8	117.8	100.0	65.6	41.9	31.1	19.7	1,016.8
Ship and boat building:									
Physical volume of production	7.0	7.9	30.7	100.0	7.3	7.2	10.0	9.0	[2] 22.2
Number of persons engaged	13.5	65.4	27.8	100.0	11.8	10.9	13.2	11.9	13.4
Primary horsepower	54.8	57.4	-------	100.0	20.8	15.9	14.1	11.2	389.3
Production per person engaged	51.9	12.1	110.4	100.0	61.9	66.1	75.8	75.6	[2] 31.3
Rubber:									
Physical volume of production	158.8	130.8	80.0	100.0	32.3	21.0	-------	-------	-------
Number of persons engaged	79.7	80.5	62.7	100.0	41.5	25.2	21.9	18.7	326.2
Primary horsepower	152.8	140.9	-------	100.0	46.4	28.5	20.2	16.6	820.5
Production per person engaged	199.3	162.5	127.6	100.0	77.8	83.3	-------	-------	-------

[2] Decrease.

Growth in Use of Power Equipment in the United States, 1849 to 1923

THE substitution of mechanical for hand power is, of course, the main factor responsible for the very great increase in the productivity of American industry. A study published by the United States Geological Survey attempts to measure, as precisely as existing statistics permit, the development of power equipment over a period of years in each of the major fields of industrial activity. The following table, taken from the study referred to, shows the equipment utilized per wage earner, in different activity groups, for the same years. It will be seen that during the 25 years from 1899 to 1923, the horsepower equipment utilized per wage earner increased from 1.40 to 3.76 in manufactures, from 3.36 to 6.52 in mines and quarries, and from 2.32 to 4.74 in agriculture.

HORSEPOWER OF PRIME MOVERS UTILIZED PER WAGE EARNER IN DIFFERENT ACTIVITIES AND GROUPS, 1849 TO 1923 [1]

Horsepower

Year	Manufactures	Mines and quarries	Agriculture	Electric central stations	Electric railroads	Steam railroads	Ships	"Manufactures" [2]	"Materials" [3]	"Heavy transportation" [4]	"Manufactures" and "materials"
1849	0.92	0.61	1.32	.....	.....	2.4	7.0	0.92	1.31	4.1	1.23
1859	1.07	.95	1.72	.....	.....	7.8	11.2	1.07	1.70	8.8	1.58
1869	1.14	2.11	1.63	.....	.....	10.2	12.1	1.14	1.65	10.6	1.52
1879	1.25	2.61	1.80	.....	.....	14.0	12.5	1.25	1.82	13.8	1.68
1889	1.40	3.36	2.32	24.0	1.97	21.8	18.8	1.40	2.39	19.9	2.08
1899	1.90	4.63	2.29	48.0	8.18	22.5	24.3	2.02	2.44	21.0	2.30
1909	2.82	4.77	2.52	95.0	14.87	30.2	25.8	3.13	2.70	27.9	2.85
1919	3.26	6.17	4.10	127.5	21.40	37.8	38.1	3.32	4.37	35.8	3.90
1923	3.76	6.52	4.74	157.0	22.25	40.3	51.3	3.85	5.05	37.4	4.51

Index numbers (1899=100)

1849	48	13	58	.....	.....	11	29	46	54	20	53
1859	56	21	75	.....	.....	35	46	53	70	42	69
1869	60	46	71	.....	.....	45	50	56	68	50	66
1879	66	56	79	.....	.....	62	51	62	75	66	73
1889	74	73	101	50	24	97	77	69	98	95	90
1899	100	100	100	100	100	100	100	100	100	100	100
1909	148	103	110	198	182	134	106	155	111	133	124
1919	172	133	179	266	262	168	157	164	179	170	170
1923	198	141	207	327	272	179	211	190	207	178	196

[1] Labor Review, July, 1928, p. 36. Based on U. S. Geological Survey. Water supply paper 579: Power capacity and production in the United States, 1928.

[2] Based on 50 commodities, and including prime movers installed in manufactures and electric central stations minus the estimated prime movers of central stations utilized in mines and quarries, agriculture, and electric railroads.

[3] Includes prime movers utilized in mines and quarries, agriculture, and irrigation and drainage.

[4] Includes prime movers utilized in electric railroads, steam railroads, and ships.

EMPLOYMENT CONDITIONS

Unemployment in the Philippine Islands, 1931

THE Philippines have not had to resort to a Government system of assistance for distributing food to the jobless and their families as other countries have done. This information from the report of the Governor General of the islands for 1931 is followed, however, by the statement that "in view of the large number of people who have no work, the situation calls for the adoption of certain transitory measures calculated to afford employment to those who are willing to earn their daily bread."

The reflex of the business depression, it was reported, had been most serious in Manila, the principal industrial center in the archipeligo.

In July, 1931, nearly one-fourth of the laborers in the cigar and cigarette industry were laid off. In other industries, among them the embroidery, shoe, abaca, copra, oil, and desiccated cocoanut industries, there had been either a big reduction in the number of workers or the factories have been completely closed.

Based on a survey of the police department, the number of jobless in Manila was estimated in the Governor's report as being 12,000. Those making the survey, it was stated, were very much handicapped by many persons' refusing to state their work status.

The following factors were cited as favorable features in the Philippine unemployment situation:

1. The expansion in "the construction of substantial structures and office buildings" which furnished work for a considerable number of persons in the city.
2. The harvest season in the Provinces near Manila, which not only curtailed the movement of rural workers to the town but also attracted transient residents of Manila back to their Provinces for labor in the fields.
3. The release of funds for public works during 1931 also furnished employment for thousands who would otherwise have been jobless.

Unemployment in Foreign Countries

THE following table gives detailed monthly statistics of unemployment in foreign countries, as shown in official reports, from September, 1930, to the latest available date:

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES

Date (end of month)	Australia		Austria	Belgium			
	Trade unionists unemployed		Compulsory insurance, number unemployed in receipt of benefit	Unemployment insurance societies			
				Wholly unemployed		Partially unemployed	
	Number	Per cent		Number	Per cent	Number	Per cent
1930							
September	90,379	20.5	163,894	23,693	3.8	61,623	9.9
October	(1)		192,778	27,322	4.3	54,804	8.5
November	(1)		237,745	38,973	6.1	76,043	12.0
December	104,951	23.4	294,845	63,585	9.3	117,167	17.0
1931							
January	(1)		331,239	77,181	11.1	112,734	16.2
February	(1)		334,041	81,750	11.7	121,906	19.4
March	113,614	25.8	304,084	81,305	11.3	125,972	17.7
April	(1)		246,845	70,377	10.0	110,139	15.6
May	(1)		208,852	56,250	7.9	97,755	13.8
June	118,424	27.6	191,150	62,642	8.9	101,616	14.4
July	(1)		194,364	64,644	9.1	116,747	16.3
August	(1)		196,321	70,893	9.9	120,669	16.8
September	120,694	28.3	202,130	74,175	10.3	119,433	16.6
October	(1)		228,101	82,811	11.3	122,733	16.8
November	(1)		273,658	93,487	13.3	134,799	19.2
December	118,732	28.0	329,627	128,884	17.0	159,941	21.1
1932							
January	(1)		358,114	153,920	20.0	179,560	23.2
February	(1)		361,948	168,204	21.3	180,079	22.8
March	120,366	28.3	352,444	155,653	19.4	185,267	23.0
April	(1)		303,888	152,530	18.8	183,668	22.6
May	(1)		271,481	160,700	18.9	191,084	22.5
June	124,068	30.0	265,040	153,659	18.7	173,819	21.2
July	(1)		266,365	169,411	19.6	174,646	20.3
August	(1)		269,188	165,596	19.3	168,818	19.7
September	122,340	29.6	275,840				

Date (end of month)	Canada	Czechoslovakia			Danzig (Free City of)	Denmark	
	Per cent of trade-unionists unemployed	Number of unemployed on live register	Trade-union insurance funds—unemployed in receipt of benefit		Number of unemployed registered	Trade-union unemployment funds—unemployed	
			Number	Per cent		Number	Per cent
1930							
September	9.4	104,534	57,542	5.3	16,073	27,700	9.0
October	10.8	122,379	61,213	5.5	17,307	32,880	11.4
November	13.8	155,203	65,904	5.9	20,272	44,200	15.3
December	17.0	239,564	93,476	8.3	24,429	71,100	24.6
1931							
January	16.0	313,511	104,580	9.5	27,081	70,961	24.2
February	15.6	343,972	117,450	10.0	28,192	73,427	26.0
March	15.5	339,505	119,350	10.0	27,070	67,725	22.1
April	14.9	296,756	107,238	8.9	24,186	45,698	15.3
May	16.2	249,686	93,941	7.6	20,686	37,856	12.3
June	16.3	220,038	82,534	6.6	19,855	34,030	11.3
July	16.2	209,233	82,759	6.6	20,420	36,369	11.8
August	15.8	214,520	86,261	6.9	21,509	35,060	11.8
September	18.1	228,383	84,660	6.7	22,922	35,871	12.1
October	18.3	253,518	88,600	6.9	24,932	47,196	16.0
November	18.6	336,874	106,015	8.2	28,966	66,526	22.3
December	21.1	480,775	146,325	11.3	32,956	91,216	30.4
1932							
January	22.0	583,138	186,308	14.0	34,912	105,600	35.1
February	20.6	631,736	197,612	14.8	36,258	112,346	37.3
March	20.4	633,907	195,076	14.6	36,481	113,378	37.5
April	23.0	555,832	180,456	13.3	33,418	90,704	29.9
May	22.1	487,228	171,389	12.6	31,847	79,931	26.1
June	21.9	466,948	168,452	12.3	31,004	80,044	25.6
July	21.8	453,294	168,046	12.2	29,195	92,732	29.5
August	21.4	459,406			28,989	95,770	30.5
September					30,469	97,130	30.9

[1] Not reported.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Estonia	Finland	France	Germany			
					Trade-unionists		
	Number unemployed remaining on live register	Number of unemployed registered	Number of unemployed in receipt of benefit	Number of unemployed registered	Per cent wholly unemployed	Per cent partially unemployed	Number unemployed in receipt of benefit
1930							
September	1,414	7,157	988	3,004,000	22.5	15.1	1,965,348
October	3,282	10,279	1,663	3,252,000	23.6	15.4	2,071,730
November	5,675	10,740	4,893	3,683,000	26.0	16.1	2,353,980
December	6,163	9,336	11,952	4,384,000	31.7	16.9	2,822,598
1931							
January	5,364	11,706	28,536	4,887,000	34.2	19.2	3,364,770
February	4,070	11,557	40,766	4,972,000	34.5	19.5	3,406,979
March	2,765	11,491	50,815	4,756,000	33.6	18.9	3,240,523
April	2,424	12,663	49,958	4,358,000	31.2	18.0	2,789,627
May	1,368	7,342	41,339	4,053,000	29.9	17.4	2,507,732
June	931	6,320	36,237	3,954,000	29.7	17.7	2,353,657
July	634	6,790	35,916	3,976,000	31.0	19.1	2,231,513
August	933	9,160	37,673	4,215,000	33.6	21.4	2,376,589
September	2,096	12,176	38,524	4,355,000	35.0	22.2	2,483,364
October	5,425	14,824	51,654	4,623,480	36.6	22.0	2,534,952
November	7,554	18,095	92,157	5,059,773	38.9	21.8	2,771,985
December	9,055	17,223	147,009	5,668,187	42.2	22.3	3,147,867
1932							
January	9,318	20,944	241,487	6,041,910	43.6	22.6	3,481,418
February	9,096	18,856	293,198	6,128,429	44.1	22.6	3,525,486
March	8,395	17,699	303,218	6,034,100	44.6	22.6	3,323,109
April	6,029	16,885	282,013	5,934,202	43.9	22.1	2,906,890
May	4,896	13,189	262,184	5,582,620	43.3	22.9	2,658,042
June	3,137	12,709	232,371	5,475,778	43.1	20.4	2,484,944
July	2,022	13,278	262,642	5,392,248	43.9	23.0	2,111,342
August	3,256	16,966	264,253	5,223,810	44.9	23.2	1,991,985
September			259,237	5,100,322			1,850,197

Date (end of month)	Great Britain and Northern Ireland				Great Britain	Hungary	
	Compulsory insurance				Number of persons registered with employment exchanges	Trade-unionists unemployed	
	Wholly unemployed		Temporary stoppages			Christian (Budapest)	Social-Democratic
	Number	Per cent	Number	Per cent			
1930							
September	1,579,708	13.1	608,692	5.0	1,114,955	874	22,252
October	1,725,731	13.9	593,223	4.8	2,200,413	999	22,914
November	1,836,280	14.8	532,518	4.3	2,274,338	975	23,333
December	1,853,575	14.9	646,205	5.3	2,392,738	935	24,648
1931							
January	2,044,209	16.5	618,633	5.0	2,613,749	953	26,191
February	2,073,578	16.7	623,844	5.0	2,627,559	965	27,089
March	2,052,823	16.5	612,821	5.0	2,581,030	996	27,092
April	2,027,896	16.3	564,884	4.6	2,531,674	1,042	27,129
May	2,019,533	16.3	558,383	4.5	2,596,431	843	26,131
June	2,037,480	16.4	669,315	5.4	2,629,215	751	23,660
July	2,073,892	16.7	732,583	5.9	2,662,765	876	26,329
August	2,142,821	17.3	670,342	5.4	2,732,434	941	28,471
September	2,217,080	17.9	663,466	5.3	2,879,466	932	28,716
October	2,305,388	18.1	487,591	3.8	2,755,559	1,020	28,998
November	2,294,902	18.0	439,952	3.4	2,656,088	1,169	29,907
December	2,262,700	17.7	408,117	3.2	2,569,949	1,240	31,906
1932							
January	2,354,044	18.4	500,746	4.0	2,728,411	1,182	32,711
February	2,317,784	18.2	491,319	3.8	2,701,173	1,083	32,640
March	2,233,425	17.5	426,989	3.3	2,567,332	1,024	31,340
April	2,204,740	17.3	521,705	4.1	2,652,181	961	30,057
May	2,183,683	17.1	638,157	5.0	2,741,306	922	28,835
June	2,145,157	16.8	697,639	5.5	2,747,343	960	28,372
July	2,185,015	17.1	735,929	5.8	2,811,782	940	28,297
August	2,215,704	17.4	731,104	5.7	2,859,828	947	28,186
September	2,279,779	17.9	645,286	5.0	2,758,011		

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Irish Free State	Italy		Latvia	Netherlands	
	Compulsory insurance—number unemployed	Number of unemployed registered		Number unemployed remaining on live register	Unemployment insurance societies—unemployed	
		Wholly unemployed	Partially unemployed		Number	Per cent
1930						
September	20,775	394,630	22,734	1,470	35,532	8.2
October	22,990	446,496	19,081	6,058	41,088	9.6
November	25,622	534,356	22,125	8,608	46,807	11.8
December	26,167	642,169	21,788	10,022	81,204	18.2
1931						
January	28,681	722,612	27,924	9,207	100,340	23.2
February	26,825	765,325	27,110	8,303	109,235	23.5
March	25,413	707,486	27,545	8,450	102,743	21.8
April	23,970	670,353	28,780	6,390	68,860	14.3
May	23,016	635,183	26,059	1,871	60,189	12.2
June	21,427	573,593	24,206	1,584	59,573	11.7
July	21,647	637,531	25,821	2,169	69,026	13.3
August	21,897	693,273	30,636	4,827	70,479	15.3
September	23,427	747,764	29,822	7,470	72,738	15.7
October	26,353	799,744	32,828	13,605	84,548	18.0
November	30,865	878,267	30,967	18,377	107,372	18.5
December	30,918	982,321	32,949	21,935	147,107	27.8
1932						
January	31,958	1,051,321	33,277	26,335	145,124	27.0
February	31,162	1,147,945	26,321	22,222	139,956	25.4
March	30,866	1,053,016	31,636	22,912	119,423	21.6
April	32,252	1,000,025	32,720	14,607	121,378	21.7
May	35,874	968,456	35,528	7,599	112,325	22.5
June	[2] 66,912	905,097	31,710	----------	113,978	22.8
July	[2] 77,648	931,291	33,218	----------	123,947	24.6
August	[2] 57,081	945,972	33,666	----------	116,524	22.9
September	----------	----------	----------	----------	----------	----------

Date (end of month)	New Zealand	Norway			Poland	Rumania
	Trade-unionists, number unemployed	Trade-unionists (10 unions) unemployed		Number unemployed remaining on live register	Number unemployed registered with employment offices	Number unemployed remaining on live register
		Number	Per cent			
1930						
September	[1]	7,010	15.7	17,053	170,467	39,110
October	[1]	8,031	18.0	20,363	165,154	36,147
November	8,119	9,396	21.4	24,544	209,912	42,689
December	[1]	11,265	25.5	27,157	299,797	36,212
1931						
January	[1]	11,692	26.3	28,596	340,718	38,804
February	[1]	[1]	----------	29,107	358,925	43,270
March	[3] 38,028	11,213	24.9	29,095	372,536	48,226
April	[3] 36,981	[1]	----------	28,477	351,679	41,519
May	[3] 40,507	----------	----------	25,206	313,104	33,484
June	[3] 45,264	----------	----------	22,736	274,942	28,093
July	[3] 47,772	----------	----------	20,869	255,179	29,250
August	[3] 50,033	----------	----------	22,431	246,380	22,708
September	[3] 51,375	----------	----------	27,012	246,426	22,909
October	[3] 50,266	[4] 9,048	[4] 19.6	29,340	255,622	28,800
November	[3] 47,535	10,577	22.8	32,078	266,027	43,917
December	[3] 45,140	12,633	27.2	34,789	312,487	49,393
1932						
January	[3] 45,677	14,160	30.4	35,034	338,434	51,612
February	[3] 44,107	14,354	30.6	38,135	350,145	57,606
March	[3] 45,383	15,342	32.5	38,952	360,031	55,306
April	[3] 48,601	14,629	30.8	37,703	339,773	47,206
May	[3] 53,543	13,465	28.3	32,127	306,801	39,654
June	[3] 54,342	12,603	26.2	28,429	264,147	33,679
July	[3] 55,203	12,563	25.9	26,390	218,059	32,809
August	----------	----------	----------	27,543	187,537	----------
September	----------	----------	----------	----------	----------	----------

[1] Not reported.
[2] Registration area extended.
[3] New series of statistics showing unemployed registered by the employment exchanges. Includes not only workers wholly unemployed but also those intermittently employed.
[4] Strike ended.

STATEMENT OF UNEMPLOYMENT IN FOREIGN COUNTRIES—Continued

Date (end of month)	Saar Territory	Sweden		Switzerland				Yugoslavia
				Unemployment funds				
	Number unemployed registered	Trade-unionists unemployed		Wholly unemployed		Partially unemployed		Number of unemployed registered
		Number	Per cent	Number	Per cent	Number	Per cent	
1930								
September	7,527	34,963	9.8	7,792	2.5	26,111	8.3	5,973
October	9,013	43,927	12.2	7,399	3.0	23,309	9.4	6,609
November	12,110	57,070	15.3	11,666	4.7	25,793	10.5	7,219
December	15,245	86,042	22.9	21,400	6.6	33,483	10.4	9,989
1931								
January	18,921	69,437	19.8	20,551	8.3	30,977	12.5	11,903
February	20,139	66,923	18.4	20,081	7.9	30,879	12.2	14,424
March	18,292	72,944	19.3	18,991	5.4	41,880	12.4	12,029
April	18,102	64,534	17.5	10,389	4.0	27,726	10.6	11,391
May	14,886	49,807	13.2	9,174	3.5	26,058	9.9	6,929
June	15,413	45,839	12.1	12,577	3.6	34,266	9.7	4,431
July	17,685	46,180	12.4	12,200	3.3	39,000	11.3	6,672
August	20,205	48,590	12.7	9,754	3.6	33,346	12.4	7,466
September	21,741	54,405	13.7	15,188	4.0	42,998	11.2	7,733
October	24,685	65,469	16.4	18,000	4.8	47,200	13.2	10,070
November	28,659	79,484	19.9	25,200	6.6	51,900	14.4	10,349
December	35,045	110,149	27.2	41,611	10.1	61,256	14.9	14,502
1932								
January	38,790	93,272	24.5	44,600	10.6	67,600	14.8	19,665
February	42,394	93,900	23.0	48,600	11.3	70,100	15.0	21,435
March	44,883	98,772	24.4	40,423	9.0	62,659	14.0	23,251
April	42,993	82,500	21.0	35,400	7.7	58,900	12.6	18,532
May	42,881	75,650	18.9	35,200	7.6	54,500	11.5	13,568
June	40,188	79,338	19.5	33,742	7.1	53,420	13.3	11,418
July	39,063	77,468	19.4	35,700	7.5	54,000	11.4	9,940
August		80,975	20.0					11,940

Unemployment Among English Boys and Girls

IN ITS issue for September, 1932, the Ministry of Labor Gazette calls attention to the extent of unemployment among juveniles under 18, and to the results of an investigation into their circumstances and industrial history recently undertaken by the Ministry of Labor.

During the past two years the number of those under 18 registered as applicants for employment at the official bureaus throughout Great Britain has ranged from rather less than 100,000 to rather more than 140,000, the number normally increasing at the end of each school term and then decreasing through the next school term. On February 16, 1931, the registers showed 71,666 boys and 63,044 girls as applicants for employment, and of these, 3,446 boys and 3,060 girls were selected for investigation. For each, data were secured as to sex, age, marital status, industry and occupation, employment since leaving school, record of benefit and contributions, and employability. The age distribution of those included was as follows:

TABLE 1.—AGE AND SEX OF JUVENILES INVESTIGATED IN GREAT BRITAIN

Age in years	Boys	Girls
	Per cent	*Per cent*
14	17.9	21.9
15	9.6	11.8
16	25.2	24.8
17	47.3	41.5
Total	100.0	100.0

It will be seen that both boys and girls of 15 years of age, registered as unemployed, numbered little more than one-half as many as those of 14 years of age, and formed an even smaller proportion of those aged 16 years of age. Nearly one-half of all the boys and over two-fifths of the girls were 17 years of age.

By relating the number of insured juveniles aged 16 and 17, respectively, on the registers when this sample was taken, to the total number insured at those ages, it was found that the rate of unemployment among those aged 17 was double the rate among those aged 16. For both sexes about 5 per cent were unemployed at age 16 and 10 per cent at age 17.

Of the boys 76.2 per cent and of the girls 75 per cent had not gone beyond the elementary schools. This showed an improvement since a former investigation of this kind, made in 1925, at which time 83 per cent of boys and girls alike had last attended elementary or primary schools only.

Position as to Unemployment Insurance

SIXTEEN is the earliest age at which a worker can enter the unemployment insurance plan. Those insured under 18 are not entitled to transitional payments, and can not claim standard benefits unless they have paid at least 30 contributions in the two years preceding the date of their claim; they could not, therefore, be classified as claimants unless at least 30 weeks had passed since their entry into insurance. Of those who were 16 or 17 years old the proportions who were (1) claimants to benefits, (2) insured but not yet entitled to claim benefits, and (3) uninsured, were as follows:

TABLE 2.—POSITION OF JUVENILES INVESTIGATED IN GREAT BRITAIN AS TO INSURANCE AND BENEFITS

Status	Boys		Girls	
	16 years	17 years	16 years	17 years
	Per cent	*Per cent*	*Per cent*	*Per cent*
Claimants	32.0	87.8	27.9	80.3
Insured nonclaimants	48.3	8.6	41.8	11.3
Uninsured	19.7	3.6	30.3	8.4
Total	100.0	100.0	100.0	100.0

Both boys and girls were very generally insured, but naturally the proportion of those claiming benefit was much larger among those aged 17, since they had had more time to qualify.

Record of Employment and Unemployment

OF ALL the juveniles in the sample, over 15 per cent of the boys and 21 per cent of the girls had not had any employment. Among those who had been employed, 67 per cent of the boys and nearly 50 per cent of the girls had obtained their first job within one month of leaving school. In regard to the girls it is suggested that the figures may be influenced by the custom in some districts of remaining at home for a time after leaving school before seeking employment. Among both boys and girls 47 per cent had been unemployed for not more than a month since their last job, and only 1 per cent of the boys

and less than 2 per cent of the girls had been unemployed for 12 months or more since their last job. The following table shows for both sexes the amount of employment obtained, by the length of the period out of school:

TABLE 3.—AMOUNT OF EMPLOYMENT OF JUVENILES, BY TIME OUT OF SCHOOL

Months since leaving school	Average number of months of employment	
	Boys	Girls
Not over 3	1.4	1.5
3 and under 6	4.8	4.6
6 and under 9	7.8	7.7
9 and under 12	10.8	10.9
12 and under 18	13.9	15.5
18 and under 24	21.7	21.5
24 and under 30	27.5	27.3
30 and under 36	33.4	33.2
Over 36	40.5	40.6

The reasons for leaving or losing employment were ascertained, and the industrial depression was found to be the most common, accounting for over one-fourth of all the jobs lost. Another query dealt with the effect of age in this respect.

In order to throw some light on the question whether there was any definite tendency toward losing or leaving employment immediately after reaching 16 years of age, those jobs which were lost within three months before or after that age were specially marked on the schedule. The analysis shows that in these cases "too old" accounted among boys for a high proportion of jobs left; 21 per cent of the jobs lost within three months before or after the sixteenth birthday were lost on this ground, as compared with 21 per cent due to trade depression; and 16 per cent left on "own accord." It is of interest to note that among boys the percentage of such jobs which were left on account of the worker being "too old" was 9 per cent in progressive employments other than apprenticeship, etc.; 35 per cent in nonprogressive employments; and 6 per cent in casual or seasonal employment. Among girls only 4 per cent of the jobs lost within three months before or after the sixteenth birthday were lost because the applicant was "too old."

Insurance Contributions and Benefits

NONE of the juveniles included in the sample could have been insured for more than two years, and the maximum number of contributions which could have been paid if they had been employed steadily in insurable occupations could not, therefore, exceed 104. The following table shows the position, with regard to contributions paid, of the boys and girls who entered insurance up to July, 1929, and who had therefore been insured for periods varying from a minimum of 84 weeks to a maximum of 104 weeks.

TABLE 4.—DISTRIBUTION OF JUVENILES ACCORDING TO INSURANCE CONTRIBUTIONS PAID

Total contributions paid	Boys	Girls
	Per cent	*Per cent*
1 to 24	1.4	1.0
25 to 48	11.1	10.4
49 to 72	34.4	31.8
73 to 96	49.5	54.1
97 or more	3.6	2.7
Total	100.0	100.0

During the period covered by the table unemployment among juveniles showed a heavy increase. As a general rule very few boys and girls are continuously unemployed for considerable periods, and it would appear from the foregoing table that during 1930 the increase in unemployment probably resulted from its spread to a much larger number of individuals who became intermittently employed, rather than from the lengthening of the period of unemployment among a slightly increased number of boys and girls.

As mentioned before, no juvenile can draw benefit until he has at least 30 contributions to his credit. Allowing for the time required for this, and for the waiting periods after application, the maximum amount of benefit which could have been drawn by the boys and girls entering insurance before July, 1929, would vary between about 315 and 435 days. The following table shows their classification according to the amount of benefit actually drawn.

TABLE 5.—BENEFIT PERIODS OF INSURED JUVENILES IN SAMPLE INVESTIGATED

Days of benefit drawn	Boys	Girls
	Per cent	*Per cent*
0	9.3	10.7
1 to 50	31.0	35.5
51 to 100	24.4	22.9
101 to 150	15.7	15.6
151 to 200	10.2	7.0
201 to 250	6.4	3.7
251 or more	3.0	4.6
Total	100.0	100.0

Practically 10 per cent of both boys and girls had drawn no benefit at all, and 40 per cent of the boys and 46 per cent of the girls had drawn less than 50 days. Of the boys 35.3 per cent, and of the girls 30.9 per cent had drawn more than 100 days.

Employability

INTERVIEWS were held with 2,983 boys and 2,725 girls in order to assess employability. Four points were considered: Physique, health, general appearance, and intellectual responsiveness. The general summing up showed the following distribution:

TABLE 6.—DISTRIBUTION OF JUVENILES ACCORDING TO EMPLOYABILITY

Employability	Boys	Girls
	Per cent	*Per cent*
Good	58.3	63.6
Fair	35.5	32.1
Poor	6.2	4.3

Over 84 per cent of both boys and girls were considered to have good health, as compared with 68 per cent of the boys and nearly 73 per cent of the girls with good physique. Under the headings "general appearance" and "intellectual responsiveness," less than 60 per cent of the boys and about 70 per cent of the girls were assessed as good.

UNEMPLOYMENT RELIEF

California's State Camps for Jobless Men

AT THE suggestion of the California State Unemployment Commission, Gov. James Rolph, jr., appointed on November 16, 1931, a committee to consider the practicability of setting up camps in which transient homeless men would be furnished with food and shelter in return for labor on State projects. On November 24, 1931, the committee held a conference and recommended that labor camps be provided for the itinerant jobless. Three days later the governor approved the report of the committee and authorized the establishment of such camps. The following is a résumé of the detailed report on these successful undertakings which has recently been published by the California State Unemployment Commission.

Number of Camps and Work Accomplished

THE first camp was located in Tuolumne County, approximately 15 miles east of Groveland, and opened December 31, 1931. The remaining camps were established as rapidly as possible. Altogether there were 28 forestry camps and 2 highway camps.

The maximum time spent in the field, including travel from and to camp, was six hours. Actual field hours averaged about 4 per day per man except for work around camp, in which case the hours were longer but the work was lighter. Many of the campers volunteered to work longer than the required hours, and in some cases cooks and truck drivers in emergencies voluntarily served 12 hours a day. The cost of field work in the forestry camps is estimated at 28.1 cents per man per hour, which may be considered as showing the cost to the State for the work done. Had the work been performed on a wage basis a charge would have been made for room and board to offset the cost of camp accommodations.

The major accomplishments of the forestry camps are listed as follows:

	Miles
Fire trail constructed, over 50 feet wide	112. 00
Fire trail constructed, less than 50 feet wide	56. 35
Old fire trails recleared	43. 00
Roadside cleared of inflammable material	256. 00
Passable fire-truck roads built	37. 30
Fire-control telephone line built	34. 45
Trails built	22. 75
Cleared of inflammable material	[1] 633. 00

In addition to the activities reported above, a very substantial amount of miscellaneous fire-protection work was carried on. Furthermore, camp sites were cleared, some 20,000 trees planted, sanita-

[1] Acres.

tion facilities installed, picnic tables constructed at camp grounds and State parks, and a considerable amount of maintenance and repair work was carried on at the various camps, as skilled mechanics, including carpenters, plumbers, automobile repairers, and blacksmiths, were available.

Amount of Relief and Costs

AN allotment of $110,000 from the State emergency fund was made to finance the operation of the forestry camps. The purposes for which the sum of $109,982.87 from this fund was expended were as follows:

Housing	$11, 613. 07
Working tools	2, 228. 46
Tobacco	6, 913. 22
Subsistence	53, 573. 47
Clothing	9, 775. 84
Cash bonus [2]	4, 815. 00
Transportation	10, 576. 00
Camp maintenance	5, 811. 55
Salaries and expenses of commissary men	2, 176. 26
Estimated outstanding cost of repairing trucks	2, 500. 00
Total	109, 982. 87

All the forestry camps together totaled 2,513 days of operation or 200,399 man-days in camp. The average subsistence cost per man per day was 25.35 cents and the average cost for tobacco per man per day for the three units which kept this cost separately, was 3.52 cents.

The housing cost for the forestry camps was 5.7 cents per man per day, which included construction cost, rentals, purchases of mattresses, straw for ticks, blankets, etc. Most of the purchased tools have been stored by the division of forestry and will be available later on for other work.

The transportation cost was relatively high because of the remote location of most of the camps and also because the roadside clearing work necessitated the campers' going long distances from headquarters.

The total expenditure from the State emergency fund does not cover the total cost of operating the camps. It does not include the salaries and expenses of State employees retained on a year-round basis, nor does it include the salary and expenses of United States Forest Service personnel, nor the other services rendered by the United States Forest Service, which amounted to $14,298. Fresno County contributed $1,350 toward the support of men taken from Fresno and sent to Pinehurst Camp. The California Forest Protective Association paid labor camp bills amounting to $2,900 for services needed at the camps which could not be paid for by the State because of fiscal and legal restrictions. The city and county of San Francisco expended $5,092.18 for the men sent to the camps from San Francisco. The expenditures were for the following services: Railroad fare, $3,800.02; clothing, $642.42; medical, dental, and hospital charges, $649.74.

The two State highway camps for the relief of the unemployed were operated, respectively, from December 3, 1931, to April 15, 1932, and from January 5 to April 12, 1932. The cost to the State for 44,132 man-days' relief in these two camps combined was $99,678.71, or $2.26 per man per day.

[2] When the camps were closed early in April, 1932, each man leaving the camp was given a "cash bonus" of $5.

Cooperation With Other Agencies

THE great majority of the counties agreed to cooperate in making the State labor camp project successful. Not only was county and municipal cooperation organized through the efforts of the State labor camp committee, but that body also endeavored to secure the aid of corporations and private individuals in order to conserve as much of the State funds as possible for food supplies. As an outcome of its efforts the committee was allowed the use of various buildings, camps, and general housing equipment without charge, except for damage from occupancy. Surplus army and navy equipment was requested. The different branches of State government which were called upon for assistance agreed to help in every way they could. This fine spirit made it possible to coordinate the work of various departments of the State and to render numerous services in the operation of the camps without additional expense to the State.

Recruitment of Men

MOST of the campers were of the highest type among the unemployed and were recruited through police departments, fire departments, the Salvation Army, missions, community chest organizations, and other welfare agencies of the city. To be eligible for camp life the men had to pass successfully an examination for physical fitness. Only volunteers were accepted in the camps but after their arrival they were required to work or leave.

The capacity of all the camps was 3,352 men, the northern California undertakings accommodating 1,759, and the southern California operations, 1,593. The communities from which the men were sent met the cost of transportation to the camp.

Care of the Men

AS REPORTED above, the State supplied food, shelter, clothing, and tobacco to the campers in return for a maximum of 6 hours' work per day, including time spent in going to and from fire-hazard-reduction work and highway-construction work.

All camps furnished plain but wholesome food, and there were no restrictions as to the amount a man should eat. The food was similar to that provided in the California logging and construction camps. All the Federal and State employees ate with the unemployed men, being served the same meals at the same tables. Each man was assigned a cot or a built-in bunk and furnished a mattress and three or more blankets. Tobacco and matches were distributed three or four times a week.

The clothing provided included overalls, work shirts, woolen and cotton underwear, shoes, socks, and leather-faced gloves. In addition, contributions of other apparel such as army overcoats and used clothing were made available to the campers.

The men in southern California were housed largely in tent camps, while the men in northern California were housed in various available buildings, built, rented, or borrowed by the State.

Sickness in camp was cared for by a first-aid man in each camp, and serious cases were sent to the communities from which they had been sent, or in emergencies to State hospitals and county hospitals.

The men in camp were well pleased with the provisions made for their care during the winter when paying jobs were not available.

Occupation, Ages, and State Residence of Campers

WHILE there was a predominance of unskilled laborers among the campers, there were numbers who had had skilled and semiskilled occupations and also many from the ranks of the white-collar workers. In one camp of 230 men, 70 different occupations were reported.

Of the 3,257 men reporting ages, 73.5 per cent were under 41 years of age, 20.1 per cent (including 155 boys in the Houdd Gibson Camp for Juveniles) were under 22 years of age, and only 11.7 per cent were over 50 years of age.

About 20 per cent of the total camp population were residents of California, the remainder being nonresident transient jobless from nearly every State in the Union.

Effect on Communities

THE number of transient unemployed entering California declined rapidly after the news of the State's labor camp project reached the East. The communities dispatching men to the camps were very appreciative of the relief resulting from removing from the charitable agencies the burden of caring for the itinerant jobless.

Communities located near the camps are reported to have been pleased by the men's behavior and the work they accomplished.

Recommendations of the Commission

SOME of the men had been promised more clothing and services than it was possible to provide in camp. In operating labor camps in the future, printed statements setting forth the exact nature of camp provisions should be posted at all places where men are recruited for these projects.

Although there were no serious breakdowns resulting from inadequate medical care, greater facilities for medical aid should be provided if camps of this character are to be operated in the future.

In case a man arrives at camp with good clothes, these should be checked with the manager of the camp and work clothes furnished. Since the camp labor turnover was not so great as was anticipated it would be well to provide heavier-weight work clothes and shoes than those available last winter. Before the opening of camps, clothing should be sent to central warehouses ready for shipment when requested by camps, thus preventing needless suffering among the men by the delay in securing clothing.

On the whole, camp supervision was very satisfactory. "In only one forestry camp did it appear that the men in charge were not qualified for the job." The experience of supervising officers last winter should insure better management and lower costs in the future.

This special unemployment relief project was begun so late in the fall that camps were set up during the winter storm period, which delayed their opening and made it difficult for the men establishing such camps. Any future program for similar camps "should be adopted early enough to permit their location and establishment

prior to the heavy winter storm period." The great majority of the camps closed early in April which was rather too soon, as the demand for labor at that time is not sufficient to absorb the men leaving the camps. To facilitate operations and provide maximum relief, camps should open around October 15 and close about the end of April.

Status of Applicants for Work Relief in Milwaukee

THE city of Milwaukee has issued a mimeographed report showing the amount of money raised for work relief in 1931–32, the uses to which the funds have been put, and detailed information as to the status of the unemployed applicants for work relief. Of particular interest are the statistical summaries dealing with the unemployed registrants, a total of 23,932 persons.

Among the 23,932 applicants for work relief, it is stated in the report under review, 68 per cent were married, 27 per cent single, and the remaining 5 per cent were widowed, separated, or divorced. The average size of family, including single men, was 3.1 persons and excluding single men, 4.1 persons. Among 17,895 persons with dependents the number of dependents ranged from 1 to 13, as follows:

	Number of persons		Number of persons
1 dependent	4,954	8 dependents	191
2 dependents	4,728	9 dependents	100
3 dependents	3,508	10 dependents	42
4 dependents	2,171	11 dependents	21
5 dependents	1,138	12 dependents	5
6 dependents	681	13 dependents	3
7 dependents	353		

It is seen from the preceding figures that a substantial proportion of the applicants, amounting to 2,534 persons, or 14 per cent of the total, had 5 or more dependents.

In presenting an analysis of the age of applicants the report calls attention to the fact that 70 per cent of the total fall in the age group 25 to 49 years, the period when persons are ordinarily regarded as most employable. Applicants under 25 years of age make up 17 per cent of the total, and those of 50 and over 13 per cent.

About 21 per cent (5,040 persons) of the group are foreign born, more than half the foreign born coming from Germany, Poland, and Austria. Of the remaining number, 9,066 are natives of Milwaukee, 4,381 were born in other sections of Wisconsin, and 5,445 in some other part of the United States.

Light is thrown on the economic position of the applicants for work relief by the fact that among the 23,932 seeking work, 4,340 registrants or about 18 per cent of the total, reported that they were home owners, and 3,923 out of these 4,340 persons were making payments on homes. Delinquent taxes were reported by 1,432 persons.

Actual placement of registrants at work was as follows:

DISTRIBUTION OF REGISTRANTS FOR WORK RELIEF IN MILWAUKEE

Item	Persons having—			Total registrants	
	More than 1 dependent	1 dependent	No dependent	Number	Per cent
Persons placed at work	10,545	3,613	2,171	16,329	68.2
Persons not reporting for work assigned	645	242	143	1,030	4.3
Persons not assigned for work	711	525	2,931	4,167	17.4
Persons rejected	1,041	422	943	2,406	10.1
Total	12,942	4,802	6,188	23,932	100.0

Ontario's Highway-Construction Camps for Unemployed

IN JULY, 1931, the Government of Ontario announced a comprehensive road-building plan for the northern sections of that Province, to provide work for the unemployed.

An account of this project was given by Mr. H. C. Hudson, general superintendent of the Ontario Employment Offices, before the convention of the International Association of Public Employment Services of the United States and Canada, which met in Washington, D. C., September 21–23, 1932. A summary of his paper is given below.

An advisory committee of the cabinet to deal with unemployment was appointed by the Premier of Canada. The chairman of this body was the Minister of Public Works and Labor, whose duty it was to indicate the number who should be taken respectively from 155 municipalities for the highway-construction project.

As soon as the different camps were ready for occupancy, orders started to pour into the head office of the Employment Service, calling for from 100 to 200 men practically every day between October 1, 1931, and the end of January, 1932. As soon as an order was received a decision was made as to the city or town from which the men should be taken. The employment office superintendent at that point was then notified by telegraph, instructing him to proceed immediately to have the assigned number medically examined and outfitted with suitable clothing for transfer to the north. If the superintendent did not have his men already selected from the lists supplied by the municipal authorities, he immediately took the necessary steps in this direction. The medical examinations were carried on either in municipal offices, in the employment office, or in the doctor's residence or office. The medical examination was sufficiently thorough to guarantee that the men were physically fit to undertake construction work in the north and that they were not afflicted with any contagious diseases. The heavy clothing required for the work was issued to the men by the municipality, who in turn charged one-third of the cost to the Federal and one-third to the provincial governments as part of the understanding in sharing unemployment relief costs.

On the day designated, the superintendent of the employment office conducted the men to the train and accompanied them to Toronto, the group traveling on transportation certificates at the rate of 1½ cents per person per mile. These transportation certificates included a clause providing for a rate of 2 cents a mile for the return trip, payable by the traveler, under the condition that he worked 90 days or until the job to which he was assigned was completed.

On reaching Toronto, the coaches were transferred to northbound trains and the prospective campers placed under an escort, selected from the ranks of the unemployed, whose function it was to maintain discipline on the train, handle railway tickets, and distribute lunches

en route. On no occasion did any serious trouble develop on any of the trains. The spirit of good fellowship was notable.

At the end of their journey by train the men were met by guides and conducted, usually on foot, sometimes by boat, to the camp. The men were lodged in adequately ventilated wooden huts, covered with tar paper and heated by stoves large enough for buildings double the size.

> The calls for breakfast were enthusiastically responded to by the workers, many of whom had not eaten regularly for months, and from the point of view of both quantity and quality the menu left nothing to be desired. Cereal, meats, preserved fruits, tea, coffee, and even pastry could be had in unlimited quantities, and, as was anticipated, a natural tendency of the men during the first few days was literally to "gorge" themselves into a temporarily uncomfortable state of health.
>
> As the actual work was commenced on the road-building projects, the difficulty in this connection was soon overcome, as the bracing northern air and healthy, outdoor exercise gave the men the capacity to enjoy and assimilate tremendous quantities of foodstuffs.

The construction work varied in different sections of the country. In some instances entirely new roads had to be built in virgin territory as links in the prospective Trans-Canada Highway. In other cases a road already constructed was straightened and broadened to make it conform to the standard established by the Northern Development Department. The campers soon learned how to use dynamite, how to handle an ax, and how to do other kinds of work in which they had had little or no previous experience.

There was rigid maintenance of sanitary conditions in the camps, inspectors being assigned to each district. Regular visits were also made by a provincial police officer. During all the winter months there was only one arrest and that for a slight offense. Firearms and liquor were not allowed in camp.

Provision was made for various forms of recreation. Many of the men had brought musical instruments with them, and the musical and dramatic talent among the workers helped to furnish entertainment; many of the camps had radios, and whenever practicable hockey matches were held on rinks on neighboring lakes.

Valuable educational facilities were provided in various camps by the Frontier College. The field faculty of this institution consists of carefully selected university men, who work side by side with their students during the day and conduct evening classes in one of the huts. Attendance was not compulsory, but in camps where frontier teachers were located an amazingly high percentage of the workers showed a genuine eagerness for instruction in English, arithmetic, writing, naturalization, citizenship, and other subjects. The 41 instructors reached about 5,000 campers.

The spirit of service and cooperation manifested in the aid given the workers through the Frontier College was also in evidence in a number of other directions. For example, an applicant for a position as camp superintendent was surprised when he found he was to be paid for his services. He explained that he had expected to work without remuneration and was quite willing to do it, as he felt that every one who was able to do so should make some sacrifice in the face of the present emergency. In another case one of the campers from a small town sent each month $5 of his wages to the municipal officials to assist some one who was not so fortunate as himself.

The cooperation between Government departments was important, including the Forest Department's loan of airplanes for aerial surveys, the health inspection of camps already referred to above, and, of course, the assistance of the Employment Service in transferring the men to the work.

Numerous examples, Mr. Hudson said, might be cited showing the men's appreciation of being selected for camp work. The following is an extract from a letter of one of the highway-construction workers to a local superintendent.

> I intended writing you long before now to thank you for giving me the opportunity to come up north on this highway work, after months of idleness and a futile search for work it was indeed a godsend to come up here and be independent once again, and I assure you that I feel deeply grateful both to the authorities and to you personally for the help you extended to me.
>
> Regarding conditions in camp here, everything is quite satisfactory to me, and 100 per cent better than ever I expected them to be. The food is excellent and any amount of it; I myself have gained about 10 pounds in weight. The sleeping quarters are warm and comfortable, and the bosses everything that could be desired. The weather has been good to us and we have only lost 5 days' work up to now; this month has been the worst with a cold spell of about 3 weeks ranging from 0 down to 40 below, but it is milder again now.
>
> We haven't heard how long this job is likely to last, but I hope it will be some time yet, as it will give one a chance to get ahead. I have earned $133 clear up to date, so that is not so bad on a relief scheme, is it? I see by the papers that one man had complained about the camp here; well he must be crazy, but we have a good idea who he was.

In 1931 expenditures on highway construction in the Dominion totaled $60,002,819, of which $46,022,890 was paid out by the Provinces, Ontario's expenditure being larger than that of any other Province.

At the close of 1931 there were 279,518 miles of local roads in the Dominion and 98,564 miles of provincial highways. In 1930 the mileage of surfaced highways was 80,497; in 1931 it was increased to 85,885.

Mr. Hudson stated that the project was an undoubted success from the viewpoint of the 15,000 men taken from the southern part of the Province and the 20,000 residents of the north who secured work in camp. He considers that their unemployment problems were solved in a way which was advantageous to them mentally, physically, and financially. Moreover, he pointed out, the money placed in circulation by this highway-construction scheme undoubtedly stimulated general business conditions. For instance, the outfitting of workers entailed the purchase of more than 40,000 pairs of socks, 25,000 pairs of boots, and an equal number of wind-breakers, sweaters, and suits of underwear. Furthermore, many of the men were able to pay their unpaid room and board bills. In addition to all this, new stretches of road were opened up in a section of Ontario where highways are necessary to the country's development.

The cost to the Government is reported as high, representing a very substantial outlay for equipment and wages. "This outlay could not be continued beyond a certain point, and the prospects of the scheme being continued during the winter of 1932 and 1933 on an equally large scale seem rather remote."

Voluntary Labor Service in Schleswig-Holstein and Hamburg Areas, Germany[1]

THE farmers of the Province of Schleswig-Holstein, which is situated between the Baltic and North Seas, have for many years been combating the forces of the ocean which threaten their pastures and fields and endeavoring to reclaim from the sea a stretch of fertile soil along the western coast of the Province. Many miles in length and breadth have been so recovered, on which to-day thousands of head of cattle are grazing. Since the war an area of 5 kilometers[2] in length and 3 kilometers in breadth has been regained near the mouth of the Elbe River, while a still larger area has been secured by dikes at Nordstrand and Bredstedt, respectively.

Volunteer laborers and emergency workers have been assisting in carrying out this plan, and a chain of workers' camps has been established, reaching from the mouth of the Elbe River, across Tumlau Bay, past Husum and Nordstrand, up to the dam at the Island of Sylt.

The recovery of land from the sea is suitable to voluntary labor service as the expenditure incurred by the communities accrues almost entirely to the workers, while road making, for instance, requires a considerable percentage of funds for materials. The work, which is carried out in shifts of six to seven hours, is not easy for youthful city laborers; however, after the first week or so they become accustomed to it.

The greater part of the work in reclaiming land is done by the sea itself. With every tide, fertile mud is thrown up onto the shore and human labor retains it. Long breakwaters, composed mostly of double rows of wooden piles, the space between being filled with fir branches, are driven out into the sea in irregular, open squares. The mud swept in at high tide remains, while the water is drained away during the ebb through numerous ditches dug for such purposes.

Nature herself aids man's work by causing glasswort, or marsh samphire to grow on the thrown-up mud. This is a strong, hardy plant which grows on places covered at high tide, and its roots bind the new soil together. When this plant begins to grow, work on that spot is completed; the irrigation ditches which facilitate draining off at the ebb tide are kept in good order and finally, when the foreland is extensive and safe enough, the construction of dikes is commenced.

The Island of Pagensand, near Kolmar, Holstein, is the scene of land reclaiming on a large scale by volunteer laborers. The island has an area of some 370 acres. The waterway between it and the mainland (important to shipping) is being dredged and the soil deposited upon the shore of the island through large pipes, gradually working over a certain area, while the water flows back into the sea through runnels. The mud alone is not sufficient to give the necessary firmness to the soil; therefore there are being planted, behind a stretch of lupines, long rows of willow slips, young acacias, poplars, oaks, larches, pines, and firs. The working plan will be completed in a few years when some 8,000,000 cubic meters of soil will have been brought up from the sea and deposited on the island.

The workers' camp in this region is under the management of the German Shop Assistants Association.

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[1] Data are from report by John E. Kehl, American consul general at Hamburg, Sept. 10, 1932.
[2] Kilometer=0.62137 mile.

The question of housing for the workers in these reclamation projects has been difficult, as sometimes the nearest town or village lies an hour's travel from the labor area, while the building of barracks entails great expense.

In connection with work now commenced at Freiburg-on-Oste, where fertile soil has been thrown up for the last 40 years for many miles along the coast, the new land needs but to be safeguarded by dikes and irrigation channels to become a source of profit. If the entire project were to be carried out by business methods, it would cost the State some 20,000,000 marks ($4,760,000). The Hamburg Students Association, which has interested itself in voluntary labor service, has found it possible to solve the housing difficulty by obtaining one of the many vessels now laid up in the harbor of Hamburg. The ship is 70 meters in length and has a beam of about 9 meters; 120 students can be housed on board at the scene of work, where they will be engaged until the middle of October. The funds—the usual sum of 2 marks per day and head as paid by the labor bureaus to unemployed taking up volunteer work—come from the 250,000 marks ($59,500) apportioned to volunteer labor by the Federal Commissioner.

Unemployment Relief in the Irish Free State

A REPORT from George H. Barringer, American vice consul at Dublin, dated September 8, 1932, gives some details as to the methods which the Government of the Irish Free State is using to relieve unemployment. At that date the problem affected over 100,000 workers. The attitude of the Government is set forth in an official statement issued early in the month.

> The Government accept as a principle that it is the duty of the State, up to the limit of its power, to provide, or induce the provision of work for workless citizens of the State or, alternatively, to maintain, as far as their resources allow, those workless citizens for whom work can not be at the moment provided. The only sound way of doing this is by the organization and development of agriculture and industry, to produce from the resources of the country the wages of those now unemployed, and those being bred to unemployment. This the Government are engaged in doing under their economic policy, which has already been outlined in the Dail. The immediate problem of temporary relief, however, remains. The obvious limitation on the total amount to be spent on this temporary relief is that its cost must not habitually, at all, or sporadically at any time, seriously damage the machinery of permanent remedy.

From the central fund raised by taxation for the relief of distress and unemployment, the sum of £1,500,000 [1] is assigned for unemployment insurance, home assistance, relief of necessitous children, and public improvements. In addition, the Government has initiated a housing scheme involving the expenditure of £5,000,000, and has made a special grant of £2,125,000 for direct unemployment relief. Of this last grant, £1,000,000 is to be spent on roads, £100,000 on milk for necessitous children, £650,000 on public health and private housing schemes, and £375,000 on emergency works, land improvement, drainage, and the like. Up to the date at which the report was prepared, £617,650 from the £1,000,000 road fund had been

[1] Pound at par=$4.87; average exchange rate for August, 1932=$3.48.

allotted to country and urban areas, and schemes involving a further £215,000 were under consideration.

Under this grant 5,500 men are now employed, in addition to the 9,250 engaged on road work financed out of funds otherwise directly provided by State taxation, making a total under both heads of 14,750 men. This is, of course, in addition to those employed on road work financed by the local authorities.

Housing is being vigorously pushed.

The housing grants are already coming actively into operation to provide employment. The number of houses in course of construction by local authorities or awaiting tenders under 23 schemes of rural and urban housing is 1,817. Schemes are in course of preparation under 67 urban and rural authorities for the building of 7,300 houses, a total to date of 9,117 houses.

The corresponding figure on July 13 was 5,088—an increase of 4,129 houses. In addition, inquiries regarding the erection of new houses and the reconstruction of existing houses have been received from 11,500 private persons, involving approximately 6,000 houses.

Unemployment Relief Fund in Poland [1]

IN ANTICIPATION of the need of even greater assistance to the unemployed during the coming winter than was the case last year, the President of Poland has decreed the establishment of an unemployment relief fund and the levying of certain special taxes to provide a part of the money necessary for this purpose.

The fund will be organized as a legal entity with headquarters in Warsaw, will collect and allocate money, coordinate the relief activities of the State and of local authorities and social organizations, and itself engage in relief work for the benefit of destitute persons without employment who are not receiving unemployment insurance benefits.

It is estimated that for this purpose a minimum of 60,000,000 zlotys [2] (approximately $6,730,000) will be needed, of which one-third is expected to be raised through the following new taxes, which will be collected from September 1: (1) A tax on rent receipts for apartments of more than two rooms, to be paid by the property owner, and varying from 0.25 zloty on rents of less than 100 zloty to 1 zloty on rents over 200 zloty; (2) a supplementary tax on admission tickets ranging from 0.05 zloty to 0.50 zloty (the latter on tickets costing 5 zloty or more); (3) 1 per cent extra on totalizator bets at horse races; (4) a supplementary tax of 0.50 zloty per 100 kilograms (220 pounds) on sugar sold in the domestic market; (5) a supplement of 0.25 zloty per hectoliter (26 gallons) on beer sold in the domestic market; (6) 5 zlotys per month on safe deposit boxes; (7) a tax of 0.20 zloty on electric bulbs sold in the domestic market (regenerated bulbs excepted); (8) 5 per cent on bills for gas consumed on nonindustrial premises; and (9) a tax of 0.50 zloty to be paid by persons present in restaurants, cafés, and billiard rooms between midnight and 6 a. m.

On the other hand, the Minister of Finance is empowered to exempt from taxation all foodstuffs and fuel donated to the unemployment relief fund or purchased for the use of the fund.

In addition to the 20,000,000 zlotys which these taxes are expected to yield, it is hoped to raise 40,000,000 zlotys through private contributions.

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[1] Report of C. Warwick Perkins, American consul at Warsaw, Poland, dated Sept. 7, 1932.
[2] Conversions into United States currency on basis of 1 zloty=11.22 cents.

INDUSTRIAL AND LABOR CONDITIONS

Labor Conditions in the Tobacco Industry of the Javanese Native States

AN INVESTIGATION of labor conditions in the tobacco industry of the Javanese native States was conducted early in 1928 by the labor office in Java, and the results were published in 1929 by that office.[1] Some of the information obtained in the investigation, taken from a summary of the report carried in the International Labor Review for May, 1931, is given below.

In these native States (governments of Djokjakarta and Soerakarta), tobacco is cultivated on land belonging to the villages, which rent it to the tobacco growers by the year. The village (*kentjeng*) coolies and their families usually form the bulk of the labor employed on the tobacco plantations. The older-established undertakings, as a rule, have no difficulty in recruiting labor, but the Javanese do not like to change their habits and methods of work and often refuse to work for a new employer. The supply of labor is also influenced by the distance between the plantations and the villages and by the proximity of a large town or industrial center. For example, the town of Solo has hundreds of batik workshops that provide the native women with work which they often prefer to any other because it can be done at home.

Most employers require the coolies to sign (by a finger print) a written contract of employment giving a detailed description of the work to be done.

The field work preceding the harvesting of the tobacco consists of many operations and lasts for several months. In some of this work the coolie is assisted by members of his family and they also help in the drying and sorting sheds, but not in the harvesting.

The drying sheds are located near the coolies' living quarters, each drying shed accommodating about 24 coolies and their families. Children under 12 years of age are permitted to work in the drying sheds, as these sheds are not considered "inclosed premises" (in which, under an order which became effective in 1925, children under 12 are prohibited from working). The sorting operations, which follow the drying, are carried out in sheds deemed inclosed premises and this work is done by men or women, according to its nature. The sorting of the tobacco is done by women; work in connection with fermentation operations is done by men, assisted by youths.

Wages

THE wage systems in effect on the tobacco plantations, and the amounts paid, are described as follows in the article in the International Labor Review:

(1) The *borongan* system, employed for preparatory and maintenance work in the fields before the harvest period. The coolie is paid a lump sum of about 40

[1] Java. Kantoor van Arbeid. Publicatie No. 5: Vorstenlandsche tabaksenquête, door P. de Kat Angelino. Weltevreden, 1929.

florins [$16.08] [1] for the work done on his tobacco field during a period of 9 months. He is not, however, engaged in this work every day, since he has also to work on his rice field at the same time. According to the employers, the *borongan* wages are calculated on the basis of 40 cents [16 cents, United States currency] for an 8-hour day, or 5 cents [2 cents, United States currency] an hour. The whole sum is not paid all at once, but from time to time as the coolie requires money, which is generally for a holiday or when he has to pay taxes. Advances are also made, and this system is greatly appreciated by the coolies, because it enables them to keep out of the hands of the village money lenders. The employers complain that the coolies paid on the *borongan* system do not work quickly enough. In the opinion of the investigators this drawback is the result of the system itself. On the whole, the Javanese shows plenty of zeal when he knows his work will be remunerated, but in the case in point he does not clearly understand the connection between the performance of his work, which lasts several months, and the payment for it. It is also felt that greater diligence does not lead to higher wages or more spare time.

(2) Some of the higher agricultural operations are paid for at piece rates. This system is applied, for example, to coolies engaged in stringing tobacco leaves on bamboo fibers and attaching these fibers to poles. Wages are calculated at approximately 1⅕, 1¼, and 1½ cents [0.48, 0.5, 0.6 cent, United States currency] per pole. On pay days, which occur every 5 or 10 days, only 1 cent [0.4 cent, United States currency] per pole is paid, the remainder being kept back until the drying operations are terminated. The outstanding amounts are then paid in the presence of the tax collector, who is thus enabled to collect the taxes due. For work of this kind 60 cents [24 cents, United States currency] a day and more is frequently earned, provided the coolie is helped by all his family. Workers engaged in stripping the dry leaves can earn about 6 to 10 cents [2.4 to 4 cents, United States currency] per 100 poles. Women who tie the stripped leaves in bundles are paid 6 to 10 cents [2.4 to 4 cents, United States currency] per 100 bundles. This work is paid at comparatively high rates because it is necessary to insure the presence of enough workers to tie the tobacco leaves in bundles and stack them on the day they come from the drying sheds. On an average, women engaged in these operations do not work more than 5 hours a day.

The bundles are stacked by coolies who work as a gang under a foreman of their own choice and share the total payment for their work, or else by coolies, each working for himself. In the first case the wages of the gang are calculated per 1,000 bundles. They vary in different undertakings from 5 to 9 cents [2 to 3.6 cents, United States currency] for the first stacking and from 4 to 8 cents [1.6 to 3.2 cents, United States currency] for the second. The gang foreman receives the wages due each day and divides them among his workers without any supervision by the manager. There is thus not much information available on the wages earned by the individual coolie employed in a gang. Nevertheless, it can be assumed from the data supplied by the undertakings that on an average the daily wage is well over 40 cents [16 cents, United States currency]. When, on the other hand, the coolie works on his own account, the wage is a daily one, and is 40 cents [16 cents, United States currency] for a chief stacker and from 30 to 40 cents [12 to 16 cents, United States currency] for the other coolies.

In most of the undertakings the available data do not permit of any conclusion concerning the earnings of women sorters. No individual pay sheets are kept, and very often the number of women employed at a given time as sorters is not exactly known. The investigators, therefore, consider that better wage records should be kept. They calculate that the wage earned by women sorters generally varies from 25 to 30 cents [10 to 12 cents, United States currency] a day, a sum which they consider too low for such difficult work.

The wage earned by men employed in pressing the tobacco is calculated at so much per bale; it is 17½ to 20 cents [7 to 8 cents, United States currency] when the bale contains the topmost leaves of the plant, which are harder to press than the others, and 15 to 17½ cents [6 to 7 cents, United States currency] per bale for other qualities of leaves. The total amount earned is handed to the gang of coolies concerned, and is divided up by them on a scale of their own. Neither the employers nor their European managers know exactly on what system this money is divided. As a general rule wages are considered to be adequate; it is estimated that they vary between 30 and 65 cents [12 and 26 cents, United States currency] a day.

(3) Women employed in the sheds are paid wages which vary from 50 to 55 cents [20 to 22 cents, United States currency] a day for the more highly skilled

[1] Conversions into United States currency made on basis of 1 florin=40.2 cents; 1 cent (Dutch)=0.4 cent.

and from 40 to 45 cents [16 to 18 cents, United States currrency] a day for the others.

Bonuses and supplements

Bonuses are granted to coolies who have been most successful in planting and looking after their fields. Women sorters who have attended work regularly throughout the season also receive a bonus of several florins. In order to attract labor this bonus is given more especially to women from other villages. Children whose employment is not forbidden by law are often attracted by the offer of a few cents more than they receive from their parents. A number of undertakings have introduced the payment of a supplement to the wages of young women workers who live at some distance from the plantations. At the end of the season most of the undertakings entertain their workers, and give a thanksgiving meal (*slametan*), cinema shows, etc.

Advances and deductions from wages

Only coolies engaged in stringing tobacco leaves are fined for bad work, but deductions from wages to repay advances are made for almost all classes of workers. The bookkeeping in connection with these advances and deductions is very well organized. In many undertakings the coolie receives a personal pay card, on which his account is always kept up to date.

Working Hours

WORKERS engaged by the day usually work 9½ hours. Women engaged on sorting operations, however, often lose 45 minutes a day during the inspection of the tobacco which they have sorted and for this time they receive no pay. The hours of women paid at piece rates for work in the sorting sheds are from 6 a. m. to 5 p. m. The article under review states that if they worked the same hours as the workers paid by the day they would not earn enough.

Medical Attention and Housing

THE employers furnish free medical attention and several of them have established hospitals for their workers. They also cooperate in improving housing conditions, but do not furnish living quarters except for workers brought from a distance.

CHILD LABOR

Work Records of Minors Out of School

WHAT is the chance that a child leaving school during an industrial depression can secure and hold employment? To gain some light on this question the Consumers' League of Cincinnati recently made a study of 100 children, aged 16 and 17, who left school between September, 1930, and June, 1931, and has published its results in a pamphlet dealing with the experiences, as to employment and otherwise, of the group.[1] The following table shows the distribution of the children studied, by race and sex, and their employment experiences:

EMPLOYMENT EXPERIENCES OF 100 CINCINNATI CHILDREN

Employment status	Male		Female		Total	
	White	Negro	White	Negro	White	Negro
Continuously employed	8	-------	15	-------	23	-------
Employed at investigation but previously unemployed	11	3	7	1	18	4
Part-time workers	8	1	4	1	12	2
Continuously unemployed	11	2	7	-------	18	2
Unemployed at investigation, but previously employed	15	2	3	1	18	3
Total	53	8	36	3	89	11

Six of the girls here shown as continuously employed were working for their parents without pay, so they are on a different footing from the others. There were, however, 17 children, or one-sixth of the total, who had been steadily employed with pay from the time of leaving school up to the investigation. The majority were not so fortunate.

Twenty children had never succeeded in locating jobs, and had been continuously unemployed for periods ranging from 3 weeks to 10 months. Fourteen were working part-time only, and had not had full-time employment. Of the remaining 43, 22 were employed when we interviewed them, but had spent from 1 to 9 months looking for work; and 21 had held jobs since leaving school, but had lost them, and had been unemployed for periods running from 2 weeks to 11 months.

The 14 children classed as part-time workers had been employed so irregularly that it was impossible to estimate their amount of unemployment, but the remaining 86 had been unemployed 38.7 per cent of the total time (666¼ months) since they left school. Of the 20 children who had never been employed, half had been out of school for less than five months, and half for longer.

[1] Consumers' League of Cincinnati. Out of school—out of work? Cincinnati, 1932.

In addition, more than half of the 43 children who had been unemployed at least part of the time after withdrawal from school had been out of work 4½ months and more. Evidently, even if jobs were secured immediately on leaving school, or after some lapse of time, practically one-third of this particular group of children were neither in school nor at work for more than 4½ months after leaving school.

Work and Wages

Most of the jobs obtained were the usual type of unskilled or but slightly skilled work, with little prospect of advancement. The children were employed in bakeries, grocers' shops, in a bowling alley, as salesgirl in a 5-and-10-cent store, as a theater usher, as stock and messenger boys, as workers in a paper-box factory, as bead workers, and the like. A few had found more hopeful openings, as railway clerk, steam fitter's apprentice, painter's apprentice, truck driver, refrigerator icer, packer for an express company, etc.

The range of earnings was from $4 a week earned by a colored boy who took up shoe shining, to $18 a week, which had been earned by the boy who had secured the railway clerkship, but who had lost his job before the investigation. "Half of the 40 children on whom wage information for full-time employment was available earned more than $9 a week, half less than $9. Ten boys and girls were employed by their parents, either at home or in stores, without pay."

Reasons for Leaving School

Economic pressure was the reason given in 52 of the 100 cases studied. In this connection it is noted that 17 of the families had received help from family welfare agencies, and the investigators concluded that "31 additional families not receiving any aid seemed definitely to need it." Others left school merely because they had reached the age at which they might leave; 17 "wanted to earn their own money"; 2 left to support themselves; 9 because of difficulties in school; 9 because they "didn't like school"; 5 because of illness, either their own or in the family; 5 because they had reached the legal age for employment; and 1 because of his parent's wish.

Lack of Employment and Delinquency

The connection between idleness and juvenile delinquency is usually supposed to be so marked that the investigators were surprised to find little evidence of a direct connection in this group.

Eight boys and three girls had personal contact with the juvenile court. In the cases of the eight boys we see definite evidence of the relation between idleness and delinquency, and in one case in particular, unemployment was the direct cause of the boy's offense. Continued unemployment, coupled with poor home conditions and background, might easily make delinquents of the other minor offenders.

Apparently after the children had once left school they had little inclination to return, even though unemployed. Seven of the entire group went back to school, while the others spent their time while unemployed in looking for work, in playing with their gangs, in staying at home, and, generally, in passing the time.

Recommendations

As a result of the study, it is recommended that the schools should make every effort to prevent the withdrawal of 16 and 17 year old boys and girls during a depression, and should insist upon their having an offer of employment before allowing their withdrawal. The school program should be adjusted to their capabilities, so far as possible, and, if necessary, sources of economic aid should be tapped on their behalf. A special program is suggested for children who are neither in school nor at work.

The board of education should establish in Cincinnati special classes designed to meet the needs of children who leave school to work, and after searching for employment in vain, can not reenter the classes they have left, since they have fallen behind their grades. These classes should be set up on a flexible basis as to hours and curriculum, so that unemployed juniors could enter them for any period of time, could pursue whatever lines of study are suited to their capabilities and interests, and could have time to continue their search for jobs during part of the day.

TRADE-UNION BENEFIT PLANS

Benefits Paid by International Typographical Union

THE annual reports of the officers of the International Typographical Union[1] show the expenditures for the various benefits maintained by the union and by the locals for the fiscal year 1931–32, and the status of the various funds.

The international union pays a "mortuary" benefit, old-age pension, and strike benefits, besides maintaining the Union Printers' Home at Colorado Springs, Colo., which cares not only for superannuated members of the union but also for members suffering from tuberculosis or other disabilities. Many of the local unions also pay benefits, such as sick benefits, an old-age pension supplemental to that paid by the international, and out-of-work benefits.

The following table, giving the amount spent by locals and international during the fiscal year 1931–32, shows disbursements of more than $5,000,000, fairly evenly divided as between international and locals.

TABLE 1.—BENEFITS PAID BY PRINTERS' UNIONS, 1931–32

Type of benefit	International union (year ending June 30)		Local unions (year ending Apr. 30)	Total benefits
	Number of beneficiaries	Amount spent		
Union Printers' Home:				
Net maintenance cost	343	$288,852		$288,852
Cost of construction, repairs, etc.		98,151		98,151
Total		387,003		387,003
Old-age pensions	3,754	1,466,880	$107,582	1,574,462
Death benefits	1,137	516,544	180,789	697,333
Strike benefits		118,389	(a)	118,389
Sick benefits			50,505	50,505
Unemployment benefits			2,175,183	2,175,183
Relief donations			94,758	94,758
Grand total		2,488,816	2,608,817	5,097,633

[a] No data.

[1] Given in Supplement to Typographical Journal, August, 1932.

The statement below shows the total amounts spent by the International Typographical Union for the Printers' Home, the death benefit, and the old-age pension since the inception of these various features:

Union Printers' Home (1901–1932):	
Net maintenance cost	$4, 683, 741
Cost of construction, repairs, etc	906, 443
Total	5, 590, 184
Death benefit (1892–1932)	7, 964, 457
Old-age pension (1908–1932)	14, 941, 627
Grand total	28, 496, 268

It is seen that the most expensive benefit feature so far adopted is the old-age pension, which though in effect only since 1908 has already accounted for an expenditure equal to that incurred for both the home and death benefit combined. The table following shows the growth of the pension roll and the membership of the international assessed for the pension tax since 1909.

TABLE 2.—NUMBER OF ASSESSED MEMBERS AND PENSIONERS OF INTERNATIONAL TYPOGRAPHICAL UNION, 1909–1932

Year	Number of assessed members	Number of pensioners	Year	Number of assessed members	Number of pensioners
1909	44, 921	542	1928	75, 738	2, 662
1914	58, 537	1, 210	1929	76, 015	2, 823
1919	65, 203	1, 483	1930	77, 507	2, 998
1924	68, 944	2, 263	1931	77, 757	3, 343
1927	74, 829	2, 430	1932	76, 389	3, 754

It is seen that while the assessed membership has nearly doubled during the 24-year period, the number of pensioners has increased at a far greater rate. In 1927 the pension age was lowered from 65 to 60 years. During the past three years the number of pensioners has been increased abnormally by the addition of members who ordinarily would have continued at work, though at or past the pensionable age, but who were unable to find employment and were obliged to apply for the pension.

At the same time the receipts of the pension fund, raised by a tax of three-fourths of 1 per cent on the earnings of the employed members, have been falling off, due to the increasing amount of part-time and short-time work and of total unemployment among the members. In 1931–32 the expenditures from the fund exceeded the receipts by $203,652.98, and the officers warn that this deficit is expected to grow rapidly in the next few years unless revision is made of the whole pension scheme.

The report points out that the number of members who can meet the present pension requirements as to age and membership is increasing. The number of younger persons coming into the union, however, is decreasing because of the limited opportunity to secure work in the trade. Thus, the average age of the membership is rising, increasing the pension risk, at the same time that the revenue of the fund is decreasing because of unemployment.

The alternatives presented are (1) increased dues; (2) scaling down the amount of pension; or (3) more stringent eligibility requirements to reduce the number of pensioners. This matter is to be submitted to a referendum vote by the membership.

Benefits Paid by Photo-Engravers' Unions

DATA as to the amounts paid for the various types of benefits by the International Photo-Engravers' Union and its locals are given in the September, 1932, issue of the American Photo-Engraver. The figures show that during the year ending May 31, 1932, more than $2,000,000 was disbursed in benefits, of which nearly 80 per cent was spent by the local unions for out-of-work benefits.

The table following shows the amounts spent for each type of benefit.

BENEFITS PAID BY PHOTO-ENGRAVERS' UNIONS, YEAR ENDING MAY 31, 1932

Type of benefit	Benefits paid by—		
	International union	Local unions	Total
Sickness	[1] $33,419	$21,528	$54,947
Death	12,800	29,988	42,788
Unemployment		1,665,827	1,665,827
Insurance	72,000		72,000
Strike and lockout	249,836		249,836
Total	368,055	1,717,343	2,085,398

[1] Tuberculosis benefits.

HEALTH AND INDUSTRIAL HYGIENE

Miners' Phthisis in South Africa

MINERS' phthisis has been a serious industrial problem in South African gold mines for many years and much work has been done by the Department of Mines and Industries toward the control of the disease. According to the report[1] of the department for 1931, considerable progress has been made, a comparison of the statistics for the first four years (1912 to 1916) in which compensation was paid showing that the average number of cases arising annually during that period was 800 as compared with an annual average of 300 cases during the past three years (1928 to 1931) among miners who had been at work on or after August, 1916. As the number of miners employed underground was approximately 11,000 in both periods, the figures are regarded as fairly comparable.

As a result of the steadying influence of a settled compensation policy, the improvement in occupational conditions, and the increasing restriction of other avenues of employment there has been a tendency for the older miners to continue at work underground for much longer periods than was formerly the case. Since the risk of silicosis is highest among the miners having the longest service it is evident that the result of this tendency would be an increase in the number of cases of silicosis detected. If the temporary disturbances caused by alteration in the medical standard of selection of cases are disregarded, the data show that the actual number of cases of silicosis detected during the past eight years has been mainly the result of the operation of two conflicting influences, the decline in the liability to contract silicosis, tending to bring about a decrease, and the progressive increase in the number of miners in the later years of service, tending to cause an increase in the number of cases. The latter condition is largely the result of a change in the habits of the miners, but the decline in the liability to contract silicosis indicates both a marked improvement in the occupational conditions which cause the disease and in the type of man who is exposed to these conditions.

For statistical purposes the working miners have been divided into three classes—the "new Rand miners," who have worked only in scheduled mines and only since August, 1916, and who passed the physical examination on entrance; the "old Rand miners," who have worked only in scheduled mines but who began work prior to August, 1916, and who did not receive a physical examination on entrance; and the "miners, Rand and elsewhere," who have worked in other mines prior to entering work in scheduled mines, part of whom had passed the entrance examination. The result of the entrance exam-

[1] Union of South Africa. Department of Mines and Industries. Annual report of the Government Mining Engineer for 1931. Pretoria, 1932, pp. 81–90.

ination has been to introduce into the industry an increasing number of men of specially selected physique. In the following table the comparative rates of liability to contract silicosis among the three classes of working miners are shown for the year 1930–31. The comparison is seen to be greatly in favor of the "new Rand miners."

TABLE 1.—RATE OF INCIDENCE OF SILICOSIS AMONG EUROPEAN MINERS IN SOUTH AFRICAN GOLD MINES IN 1930-31

Classification	Percentage of incidence of silicosis among miners in specified year of underground work				
	Fifth year	Tenth year	Twelfth year	Fifteenth year	Twentieth year
New Rand miners	0.02	1.27	1.71	2.05	
Old Rand miners	.82	2.59	3.44	3.87	3.70
Miners, Rand and elsewhere	1.03	2.87	6.70	7.26	7.20

Since October, 1929, routine periodical examinations of non-European miners have been carried out by the bureau. The higher number of cases of silicosis without tuberculosis since 1925–26, shown in the following table, is due mainly to the more systematic measures for the detection of the disease since that time, as a result of the act of 1925, which consolidated the previous compensation legislation and carried certain additional provisions for beneficiaries and their dependents. Periodic radiographic examination of long-service natives has also been made since that date and an especially extensive radiographic examination of this group of natives in 1930–31 is said to account for the increase in the number of cases in that year.

The following table shows the number of cases of compensable disease among native laborers in South Africa for the past 12 years:

TABLE 2.—NUMBER OF COMPENSABLE CASES OF SILICOSIS, TUBERCULOSIS WITH SILICOSIS, AND TUBERCULOSIS FOUND IN THE PHYSICAL EXAMINATION OF NATIVE LABORERS IN THE SOUTH AFRICAN GOLD MINES, 1919-20 TO 1930-31

Year	Number of cases			Total	Year	Number of cases			Total
	Silicosis	Tuberculosis with silicosis	Tuberculosis			Silicosis	Tuberculosis with silicosis	Tuberculosis	
1919-20	125	389	791	1,305	1925-26	201	434	561	1,196
1920-21	128	274	807	1,209	1926-27	238	409	787	1,434
1921-22	40	202	576	818	1927-28	209	397	746	1,352
1922-23	71	319	660	1,050	1928-29	208	426	602	1,236
1923-24	114	310	581	1,005	1929-30	235	312	672	1,219
1924-25	85	359	456	900	1930-31	420	270	680	1,370

WORKMEN'S COMPENSATION

Workmen's Compensation Legislation of 1932

OF THE 44 States having workmen's compensation laws only 7 convened in regular session during 1932 (Kentucky, Louisiana, Massachusetts, New Jersey, New York, Rhode Island, and Virginia). Two States without workmen's compensation laws (Mississippi and South Carolina) also held regular sessions during the year but took no action relative to the enactment of a workmen's compensation law. The legislatures of 11 States (Alabama, Arizona, Arkansas, Illinois, Indiana, Maine, Michigan, Ohio, Pennsylvania, Texas, and West Virginia) and the Territory of Hawaii met in special session during the year, but did not pass any legislation amending the basic compensation laws of the respective jurisdictions. The list of States which have held special sessions so far this year is as of October 1, 1932, but press reports indicate that other States will hold special sessions of the legislature before the expiration of 1932. The legislatures were called into special sessions in most of the States primarily for the relief of unemployment, and the subject of workmen's compensation did not receive consideration. The Seventy-second Congress of the United States was also in session but did not enlarge or liberalize any of the provisions of the compensation law applicable to longshoremen and harbor workers, Federal employees, or private employees in the District of Columbia.

Two territorial legislatures (those of Puerto Rico and the Philippine Islands) met in regular session in 1932. According to official reports received from the Island of Puerto Rico there were no amendments passed by the legislature. No word has as yet been received indicating whether the workmen's compensation law of the Philippine Islands was changed in any respect.

Of the 7 States and 8 Canadian Provinces meeting in 1932 and having workmen's compensation laws, 4 States (Massachusetts, New Jersey, New York, and Virginia) and 6 Provinces (Alberta, British Columbia, Manitoba, Ontario, Nova Scotia, and New Brunswick) acted on the subject of workmen's compensation.

In the following analysis of the amendments made to the workmen's compensation laws, administrative changes and procedure have been given only minor consideration.

United States

Massachusetts

THREE acts of minor importance concerning compensation laws were passed in Massachusetts. Chapter 19 provides that more than one agent may be designated to carry out the provisions of the work-

men's compensation law regarding public employees. Chapter 117 relates to the effect of certain agreements of parties in workmen's compensation cases on the finality of subsequent findings of the board. Hereafter, by chapter 129, the court may order a case removed to the county court in which the injury occurred whenever an order of the reviewing board is presented to the court in Suffolk County.

New Jersey

THE Legislature of New Jersey repealed an act (ch. 280) adopted in 1931 regarding the procedure in appeal cases. It is now provided that judgments of the workmen's compensation bureau shall be reviewed first by the court of common pleas rather than by certiorari direct to the State supreme court (ch. 25). The definition of "employee" excludes persons engaged in the sale of newspapers, etc., or acting as distributors (ch. 64).

New York

PERHAPS the most important workmen's compensation measure passed by the Legislature of New York is that which assures an employee on construction work that his employer is covered by compensation insurance (ch. 201). Hereafter, a permit for work which involves hazardous employments may be refused unless the employer produces satisfactory proof to the industrial commissioner that compensation insurance has been secured. Chapter 200 merely combines the two different versions of group 18, subdivision 1, section 3, of the workmen's compensation law. The purpose of the amendment is to consolidate the amendments enacted by chapters 385 and 510 of the acts of 1931, bringing under the act private chauffeurs in cities of 2,000,000 population (i. e., the city of New York). The inclusion of volunteer firemen in counties and municipalities in any mutual self-insurance plan is provided for by the provisions of chapter 202. By chapter 488 provision is made to safeguard the liability of a self-insurer to an injured employee after the former has gone out of business or has secured a new form of insurance. Chapter 248 provides that compensation hereafter shall be a lien on the assets of the employer, subject, however, to claims for unpaid wages and prior recorded liens. Chapter 203 liberalizes the compensation act in regard to the position of an employee totally disabled by two separate accidents. By the provisions of the amendment an employee who is later able to establish earning capacity in any new employment may have his changed status taken into consideration and an equitable rate of compensation may be provided during the continuance of his employment. Such an employee hereafter shall be paid two-thirds of the difference between the average weekly wage at the time of his total disability and his wage-earning capacity as determined by his actual earnings in such employment. An amendment was also made to the civil practice act, providing for preference, on the trial calendar, of actions brought by a person who is entitled to compensation and who elects to sue the third party causing the injury (ch. 259).

Virginia

THE Legislature of Virginia made several important amendments to the workmen's compensation law. Chapter 19 excludes horticultural laborers from the workmen's compensation act. The total amount payable in partial disability cases was increased from $4,500 to $5,600 (ch. 22). The act was clarified as to third-party suits by reason of several decisions of the State supreme court of appeals; by the provisions of chapter 279 an employee may hereafter receive the full amount of money recoverable against a third party, minus the amount of compensation already paid. A statute of limitations is now placed on old claims by providing that a review of an award must be made within 12 months from the date of the last payment (ch. 89). An employer is prohibited by the provisions of chapter 282 from deducting from the wages of an employee the cost of workmen's compensation insurance.

Canada

THE legislatures of the Dominion Government and the Yukon Territory made no changes in the compensation laws. In Prince Edward Island a bill was introduced in the legislature providing for the enactment of a workmen's compensation law, but this bill was later withdrawn and no action was taken by the legislature during the term of the session. In New Brunswick a new workmen's compensation law was enacted, based largely upon recommendations of the Royal Commission. In Manitoba the compensation board was given wider jurisdiction in hernia claims. In Nova Scotia the workmen's compensation act was amended only in a minor part and no change in the substance of the law was effected. The legislature of the Province of British Columbia enlarged the powers of the workmen's compensation board. This was accomplished by authorizing the board to adopt a system of individual experience rating, and to allow the payment of medical aid costs without the necessity of a formal claim.

Perhaps the largest number of amendments made to the various provincial workmen's compensation laws was made by Alberta. The coverage of the Alberta act was enlarged to include restaurants and retail shops, while police officers going to and from their places of duty are hereafter also covered. A new provision of the law provides that the various provincial boards may agree upon any extraterritorial effect of the several workmen's compensation laws. In computing the time of notice required in hernia cases, an amendment to the law provides that hereafter Sundays and holidays shall be excluded in the computation. Lump-sum payments, vocational training of injured employees, and a new method of computing compensation were other subjects legislated upon by Alberta.

LABOR LAWS AND COURT DECISIONS

Nursery Employee Held to be a "Farm Laborer"

ACCORDING to a recent decision of the Supreme Court of Tennessee, a nursery employee is a "farm or agricultural laborer" and therefore is not entitled to recover compensation for injuries under the Tennessee workmen's compensation law. (Ginn *v.* Forest Nursery Co., 52 S. W. (2d) 141.)

The facts in the case were not controverted. The employer, Forest Nursery Co., operated a nursery, growing shrubs, evergreens, and shade trees. The company owned two places where shrubs were grown, one in the town of Minnville, Tenn., and the other near the town. Ginn, the employee, was working at the place located within the town at the time of his injury. He testified that he was injured while digging a shrub from the ground to be packed for shipment, which was a part of his regular duties. He was using an ordinary spade and while thus engaged his foot slipped off the spade causing his knee to strike the top part of the spade which resulted in the injury. Ginn filed claim for compensation under the Tennessee compensation law, but the circuit court of Warren County, dismissed the claim on the ground that "at the time petitioner received said injuries he was a farm or agricultural laborer" and such laborers are excluded from the burdens and benefits of the Tennessee compensation law. (Code, 1932, sec. 6856).

From this decision Ginn appealed to the Supreme Court of Tennessee, contending that he was not engaged as a farm laborer at the time he received the injury. No cases were cited determining the question involved, but the court relied upon Dowery *v.* State (149 N. E. 922), an Indiana case, and Peterson *v.* Farmers' State Bank (230 N. W. 124), a Minnesota case, in which the courts held that the correct test to be applied in determining whether the employee was covered by the act was the "character of the work which the employee is hired to perform" and not the general occupation of the employer nor the place of the work. Applying this test to the case at bar, the court found Ginn was engaged in agricultural pursuits at the time of his injury and therefore could not recover under the compensation act. Continuing the opinion, the court said:

> The employment of the plaintiff in error in the case before us required him to till the soil, to tend growing plants, shrubs, and young trees, to prepare them for market, and to deliver them to a shipping point. The harvesting and marketing of grain, the transplanting and care of tobacco plants, and the delivery of a bale of cotton from farm to shipping point, are all ordinary incidents of farm labor. The work and labor performed by plaintiff in error differed from that of the ordinary farmer only in the kind and nature of the products of the soil grown and prepared for market. No difference in hours of labor, hazard, or remuneration is pointed out which might induce a legislature to include the one and exclude the other from the operation of the statute. The labor performed by plaintiff

in error and contemplated by his employment was agricultural in the literal sense and meaning of the word, and we think we would not be justified in holding that he was not a "farm or agricultural laborer."

Texas Law Providing for Licensing of Barbers Held Constitutional

THE Texas barber law was declared by the Court of Civil Appeals of Texas to be necessary for the adequate protection of the public health and a valid exercise of the police power, in the case of Gerard et al. *v.* Smith et al. (52 S. W. (2d) 347).

The law in question provides for the creation of a board of examiners, which issues licenses after due examination and prescribes sanitary rules for the practice of barbering and penalties for the violation of the provisions. Suit was brought by the Burton Barber College (Inc.), of Dallas, Tex.; H. L. Gerard, manager and owner of the college; W. B. Noles who had been instructed in barbering and had applied for a license; and J. B. Harwell, who had practiced barbering in the past but was denied the right to practice without the payment of a license fee of $10. Each attacked the constitutionality of the act and objected to the administration by the board.

The district court of Dallas County upheld the act and declined to grant the injunctive relief sought. Appeal was then taken to the Court of Civil Appeals of Texas, which considered in turn each objection raised by the plaintiffs. The first objection was that the $10 license fee prescribed by the statute was a tax on a mechanical pursuit and therefore a violation of the State constitution which prohibited such a tax. The court, after reviewing several court decisions interpreting that provision of the constitution, was of the opinion that the license fee provision did not violate it, since "the act itself provides that all money collected by the board shall be placed in a special fund and used only for carrying out the purposes of the act"; therefore the court did not consider it an occupation tax.

The act was next assailed as being contrary to the due-process clause of the Constitution. It was also alleged that the act was discriminatory because beauty shops were exempt from its operation although they performed the same type of work, and because the classifications within the act were unreasonable.

In answering these objections the court considered the general "power of the legislature to enact any legislation governing the practice of barbering." It was agreed that such a right, if existing, would come under the police power of the State. In discussing this, the court held that the State had complete power to exercise this police power where questions of public health, public safety, and public comfort were shown, and in such cases private rights must yield. Continuing, the court said:

> Laws regulating trades, callings, and occupations in the interest of public health are universally upheld by the courts of this country, and, where the validity of such laws is challenged, it is no longer a question of authority to enact them, but rather a question of whether the trade, calling, or occupation is one involving the public health. [Cases cited.] Therefore we are confronted with the question of whether the regulation of the occupation of barbers is necessary to the public health.
>
> We are of the opinion that there can be no serious question but that there is danger of infection to the public from the carelessness and unskillfulness of

barbers and from unsanitary methods of performing the functions of that occupation. The infection may be communicated from the barber himself to the customer or from one customer to another. Therefore the regulation of the occupation is proper for the protection of the health of the public and, consequently, a proper subject for the exercise of the police power. This being true, then the act, if not invalid because of improper classification of the persons subject to its provisions, is not violative of the "contract" clause nor the "due-process" clause of the Constitution.

After examining the classification made by the act the court found that the statute was valid in that respect. The court held that "if the classification could have seemed reasonable to the legislature," then it was the duty of the court to sustain it, and said:

> We must conclude that the legislature could have reasonably decided that shaving and trimming the beard and cutting the hair involved more danger to the public than the doing of the other things enumerated, and, therefore the limiting of the provisions of the act to those doing these things was within their power, even though the doing of some of the things specified by one engaged in shaving and cutting the hair would be barbering, while the doing thereof by one not so engaged would not be.

The other objections raised, to the qualifications of those entering the practice of barbering and the question of the administration of the act by the examining board, were not sustained by the court, it being of the opinion that it should not substitute its opinion for that of the legislature. The decision of the lower court was therefore affirmed.

Labor Legislation in Canada, 1931

LABOR laws enacted during 1931 by the Parliament of Canada and the several provincial legislatures are contained in the report on labor legislation in Canada, 1931, issued by the Dominion Department of Labor and contained in the Canada Yearbook for 1932. The following is a summary of the principal changes during that year.[1]

Federal Legislation

THE sum of $750,000 per year for 15 years was appropriated for vocational education to Provinces making an agreement with the Federal Minister of Labor. The amounts of the grants were to be in proportion to the population of the respective Provinces.

For unemployment and farm-relief purposes, the Governor in Council was authorized to expend such sums as he might deem expedient. Among the purposes specified were the construction of public works and undertakings; assistance toward the production, sale, and distribution of products of agriculture, industry, etc.; and loans to governmental and other associations.

Provincial Legislation

Weekly half holiday.—In Saskatchewan, in cities of 7,000 population and over, the act provides that shops (except in certain exempted businesses) must close at noon on Wednesday, from April 1 to August 31.

[1] Except workmen's compensation; the 1931 legislation on that subject was summarized in the January, 1932, issue of the Labor Review (p. 54), while a summary of the 1932 legislation is given in the present issue (p. 1090).

Minimum wage.—In Nova Scotia the minimum wage act was amended to allow suits by employees paid less than the minimum wage; the Saskatchewan act, which applies to cities only, was amended to enable the board to extend its provisions to any town with a population of 1,500 or more; and the Manitoba act was amended to cover boys under 18.

Professions whose members are incorporated under the laws of the Province were withdrawn from the scope of the male minimum wage act of British Columbia.

Labor organizations.—A section added to the professional syndicates act of Quebec provided that in case of a contract stipulating that the members of such organizations shall receive a stated wage, such workmen or members, although not parties to the contract, are entitled to the wages therein stated, notwithstanding any renunciation thereto afterwards agreed upon by them, and may be represented in court by their organizations.

Factory inspection and safety.—The Nova Scotia factories act was amended to require employers to submit plans of their factories to the inspector.

The Manitoba Power Commission was authorized to issue safety orders relating to work done in the installation, removal, repair, etc., of electrical works, while in Ontario similar authorization with regard to work in compressed air and in the construction of tunnels and open caissons was given to the provincial Minister of Labor.

The Quebec silicosis act which came into force on September 1, 1931, provided, as regards persons employed in the cutting, polishing, or finishing of granite, for medical certificates (renewable annually), approved safety devices to be furnished by the employer at his own expense, and the promulgation of such other protective measures as the Minister of Mines may deem necessary. The minister was empowered to extend the act to cover workmen employed on substances other than granite. In Quebec, annual examinations for silicosis were required for workmen employed below ground in a mine, or in dry rock-crushing operations at the surface.

Labor department.—In Quebec and Manitoba legislation was enacted providing for the establishment of a department of labor, but in Manitoba the law will not come into force until proclaimed.

COOPERATION

Consumers' Cooperative Congress of 1932

THE eighth national cooperative congress called by the Cooperative League was held in New York City, September 26 to 28, 1932. There were in attendance 55 delegates from the affiliated societies and 33 fraternal delegates representing labor unions, farmers' associations, and other friendly organizations. The attendance was limited this year by financial considerations, as many societies ordinarily represented at the biennial meetings of the league felt unable to assume the expenses involved in sending delegates.

In his welcoming address, Dr. J. P. Warbasse, president of the league, pointed out that in our national economy production rather than consumption has been emphasized. Sale of goods produced, rather than seeing that people actually get the things they need, has been the objective. The profits made have been put back into the business and into enlarging the productive plant so as to make more output to be sold at a profit. As this process has continued, the supply of goods has become greater and greater, with the wealth gradually gravitating into the hands of a few and with a corresponding restriction in its distribution among the people and with therefore a reduction in purchasing power. Thus there is on the one hand a constantly growing productive capacity and on the other a constantly contracting consumptive or purchasing capacity. The cooperative movement, he pointed out, exactly reverses this method. It approaches the problem from the viewpoint of the consumer, of supplying him with what he wants—at no profit, all surplus being returned to him in one form or another. When the movement manufactures its supplies, it produces only as much as its members want and then stops. All this it does without destroying anything. It is a constructive, not a destructive movement. It can grow in the midst of the present system, correcting gradually and by peaceful methods the inequities of that system and supplanting the profit motive with the service motive.

Dr. Frederic C. Howe described the history of money and banking.

Mr. Albert S. Goss, master of the Washington State Grange, discussed the causes of the present crisis in agriculture.

Mrs. Helen Hayes Lanto outlined the formation of the women's guilds, showing the value of such organizations, and what they have accomplished in the North Central States.

Mr. H. V. Nurmi paid a tribute to the loyal and untiring work of the cooperative employees, and described the Union of Cooperative Employees, formed in 1930 by the employees of the societies in the Mesabe Range District of Minnesota, and now numbering some 200 workers.

Reports of Societies

One of the regular features of the cooperative congresses is the roll call of affiliated societies, each delegate giving an outline of the history of his organization, its special problems, and present status. The majority reported that their difficulties had been greatly increased and their sales decreased because of the long continuance of the depression. One or two societies, however, reported continued progress, while several have expanded the business by the opening of new branches or units.

Although a great many societies have been forced to cut the wages of their employees, the Consumers' Cooperative Services, a cafeteria organization in New York City reported that it has been able to maintain its minimum wage scale thus far. The Cooperative Bakery of Brownsville and Eastern New York reported that it also had maintained the wages of its bakers—all union men—and the reporting delegate was of the opinion that this fact constituted the strongest protection of the union bakers in Greater New York; because of the prevailing low prices of bread, however, it is a problem how much longer the society will be able to maintain this high wage level.

Several societies reported the setting aside of special funds, or other measures taken, for assisting unemployed members.

An interesting experiment was reported by the Amalgamated Houses—the organization of the tenant-owners of the cooperative apartments erected by the Amalgamated Clothing Workers. The organization has acquired a farm of about 320 acres and on this farm has settled several families. These people are cultivating the land, and the produce above their own needs is being disposed of through the cooperative stores in the Amalgamated buildings.

The Workmen's Furniture Fire Insurance Society, an organization more than 50 years old, and with over 61,000 members, reported that a recent amendment to the insurance law of New York will enable the society to reorganize as a mutual company without sacrificing its cooperative features, and to insure its members' houses as well as their furniture.

Expansion of Cooperation

The meetings of the second day of the conference were held at the Amalgamated Cooperative Apartments in the Bronx, where some 3,500 persons now live.

The general subject of these meetings was the methods by which the cooperative movement can extend its present frontiers and was introduced by A. E. Kazan, president of the A. C. W. Corporation. The possibility of the extension of the movement through joint effort with labor, with the farmers, and with the credit unions was discussed, respectively, by Mr. Joseph Martinek, manager of the Workingmen's Cooperative Co. of Cleveland, Mr. I. H. Hull of the Indiana Farm Bureau Federation, and Mr. Roy F. Bergengren, executive secretary of the National Credit Union Extension Bureau.

A committee was formed to confer with labor leaders with a view to extending and improving the relations with organized labor.

With regard to the extension of cooperative wholesaling, Mr. H. V. Nurmi, manager of the Central Cooperative Wholesale at Superior, Wis., emphasized the need of a planned budget and program for each coming year, i. e., the setting of a definite goal to be attained.

To this end publicity, advertising from the personal angle, is indispensable.

In the discussion following the presentation of the papers on extension of the present borders of the consumers' cooperative movement, Doctor Warbasse drew attention to the fact that there are many organizations which already have a semicooperative character and could be made entirely cooperative with little change. Among these are the building and loan associations, mutual benefit societies like the sick benefit associations, the Workmen's Circle, and mutual insurance companies.

Mobilization of Cooperative Credit for Consumers' Societies

A VERY important recent development in the consumers' cooperative movement was described by Mr. Werner Regli, director of the auditing department of the Cooperative League. This was the formation of a credit pool among the eastern societies,[1] the aim of which is to mobilize the resources of the cooperative movement for the purpose of assisting societies which have plenty of resources but which find themselves in temporary financial difficulty.

A representative national committee of five was formed by the congress to promote the formation of other credit pools or the extension of the existing pool, as may seem desirable.

Other Action at the Congress

WITHIN the past few years the women's cooperative guild and the youth league movements have made considerable progress in the North Central States. The idea behind these two movements is to bring the women and children into closer relation to the consumers' cooperative movement and to arouse and hold their interest therein. In order to assist the further development of these two movements national committees to carry on the work were formed by the congress, to have their headquarters at the Cooperative League in New York City.

The congress adopted the report of the insurance committee suggesting the formation of subdivisions within the district leagues to handle locally the business of Clusa Service, the cooperative insurance and bonding service formed upon the authorization of the 1930 cooperative congress.

The next congress will meet in 1934.

Membership and Business of Farmers' Cooperative Associations

A STATEMENT recently issued by the division of cooperative marketing of the Federal Farm Board gives estimates of the membership and business of the various types of agricultural cooperative associations in 1931–32 in the various States.

Summary data from that statement are shown in the following table, together with similar data for 1930–31. The table shows considerable increase in membership but, as was to be expected, a decline of nearly 20 per cent in the amount of business done.

[1] See Labor Review, September, 1932, p. 563.

ESTIMATED MEMBERSHIP AND BUSINESS OF FARMERS' COOPERATIVE ASSOCIATIONS IN THE UNITED STATES, 1930-31 AND 1931-32

Type of organization	Number of associations		Estimated membership		Estimated business	
	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32
Marketing associations handling—						
Cotton and cotton products	261	267	190,000	240,000	$130,000,000	$69,000,000
Dairy products	2,391	2,392	725,000	740,000	620,000,000	520,000,000
Forage crops	8	31	1,000	7,500	1,200,000	1,750,000
Fruits and vegetables	1,386	1,347	182,000	180,000	319,000,000	283,000,000
Grain	3,448	3,500	775,000	705,000	621,000,000	450,000,000
Livestock	2,014	1,885	400,000	450,000	300,000,000	260,000,000
Nuts	71	70	17,000	18,000	13,000,000	8,600,000
Poultry and poultry products	160	172	82,000	88,000	86,000,000	72,000,000
Tobacco	13	21	40,000	54,000	7,000,000	10,000,000
Wool and mohair	136	134	64,000	62,000	26,000,000	21,000,000
Miscellaneous	474	436	132,000	122,500	61,800,000	48,650,000
Miscellaneous purchasing associations	1,588	1,645	392,000	533,000	215,000,000	181,000,000
Total	11,950	11,900	3,000,000	3,200,000	2,400,000,000	1,925,000,000

LABOR AND OTHER CONGRESSES

Meeting of International Association of Public Employment Services

THE International Association of Public Employment Services of the United States and Canada held its twentieth annual convention at Washington, D. C., September 20–22, 1932. At the opening meeting the delegates were welcomed by John R. Alpine, the supervising director of the United States Employment Service, and an address was made by Emanuel Koveleski, the president of the association. Hon. William N. Doak, United States Secretary of Labor, gave a brief talk at one of the sessions at which he emphasized the importance of cooperation between the Federal Employment Service and the various State employment agencies and referred to the difficulty in the present industrial depression of securing appropriations for placement work. He was followed by Lewis G. Hines, Pennsylvania Director of the United States Employment Service, who reviewed some of the activities of that organization.

The subjects of other papers on the convention program were as follows: The Philadelphia Employment Demonstration; Progress Reports of the Public Employment Center at Rochester and of the Tri-City Employment Demonstration; The Rôle of the Public Employment Office under the Wisconsin Unemployment Compensation Act; Problems of Juvenile Employment under Present Industrial Conditions; The Employment Service as a Community Aid; Job Specifications as a Basis for the Operation of Employment Exchanges; Highway Construction Camps as a Partial Solution of the Employment Problem; Origin, Aims, and Accomplishments of the Employment Service Council of Canada; and The International Attitude Toward Control or Abolition of Fee-Charging Employment Agencies.

The open forums led by employment-office experts were interesting features of the convention, the first being on plant and employer visitation. Among the topics scheduled for discussion under this head were: The need and purpose of such visitations; by whom they should be made; follow-up and reports; and the value of systematizing.

Another forum took up the question of advisory boards, councils, or committees for public employment offices.

Employment-office publicity was also dealt with in a forum, the following methods being listed for debate: Applicant interviews, employer interviews, public addresses, radio, newspaper items, magazine articles, periodic reports, and correspondence.

The subject matter of two other forums were:

1. Employment office personnel: Method of selection; qualifications; personality; tactfulness; continuity of service; political affiliations; civil service protection, etc.
2. The relationship of public employment offices to social and welfare agencies: Method of cooperation; extent of cooperation; employment or charity; preference

to charity cases; employer's viewpoint; made-work projects; special work and unemployment committees; transients; parolees, etc.

The delegates were informed that the final report on uniform forms, statistics, and procedure for public employment offices would be handed in later on by the executive secretary of the committee on governmental labor statistics.

The following resolution was adopted:

Whereas there is an increasing need and growing demand for adequate facilities, both national and State, to cope with unprecedented unemployment problems which now challenge combined national, State, municipal, and community resources; and

Whereas it is believed that existing Federal and State agencies can be more closely coordinated to the end that more efficient service may be rendered to the thousands of unemployed: Therefore be it

Resolved, That this convention go on record as recommending that the relationship between the United States Employment Service and the State, municipal, civic, and other free employment services be developed with a view to closer coordination, and we urge upon these agencies participating herein to work earnestly to this end.

Emanuel Koveleski, examiner, United States Employment Service, was reelected president of the association, and B. C. Seiple, superintendent of the State-City Employment Service, Cleveland, Ohio, will again serve as secretary.

Meeting of International Association of Industrial Accident Boards and Commissions, 1932

THE nineteenth annual meeting of the International Association of Industrial Accident Boards and Commissions was held at Columbus, Ohio, September 26 to 30, 1932, with delegates present from the various States, the District of Columbia, and the Canadian Provinces.

Wellington T. Leonard, president of the association and chairman of the Industrial Commission of Ohio, opened the convention with an address in which he urged the administration of workmen's compensation laws on a sound and sane basis. He concluded his address by reviewing the workmen's compensation legislation enacted during 1932 and referring to several important court decisions handed down during the past year. Ethelbert Stewart, making his report as retiring secretary-treasurer of the association, recommended the suspension of all dues for the period of one year, in view of the strong financial position of the association and the prevailing depression. This recommendation was subsequently adopted.

Reports of the regular committees on statistics and costs, safety and electrical safety codes, forms, rehabilitation, and workmen's compensation legislation were made by their respective chairmen. The forms committee submitted five uniform report forms, prepared in cooperation with the National Council on Compensation Insurance, and covering the employer's first report of injury, employer's supplemental report of injury, standard form for agreement as to compensation, final compensation settlement receipt, and surgeon's report. These forms were adopted by the convention.

On the opening day of the convention Miss Frances Perkins, industrial commissioner, Department of Labor of New York, reviewed

the medical and hospital costs in workmen's compensation cases. Miss Perkins also discussed the study made in New York by a special committee appointed by Governor Roosevelt and reviewed in detail the recommendations of the committee. Among other things, she favored the excluding of insurance company doctors from medical examinations.

The second day of the convention opened with a discussion of the "average weekly wage" provision under the compensation law. Dr. Walter O. Stack, president of the Industrial Accident Board of Delaware, discussed the subject Some Questions as to Ascertainment of What is an Average Weekly Wage under Present Conditions; Its Relation to Premium Rates and Insurance Problems. Doctor Stack stressed mainly the point of harmonizing the State laws on workmen's compensation. He proposed several changes in the method of determining the average weekly wage in the several States. Mr. R. E. Wenzel, commissioner of the Workmen's Compensation Bureau of North Dakota, addressed the convention on the subject of What is an Adequate Reserve?

The session on Wednesday morning was devoted to accidents and accident prevention. Mr. T. J. Duffy, formerly of the Ohio Industrial Commission, spoke on the Relation of Safety Codes to Industrial Accident Prevention, while Mr. R. B. Morley, of Ontario, contended in his address that "Safety is better than compensation." Mr. Morley stressed the high cost of industrial accidents and advised preventive measures to curb the number of accidents and the consequent costs.

The afternoon session of the same day was devoted to the legal aspect of workmen's compensation. Mr. Samuel B. Horowitz, formerly of the Boston Legal Aid Society, discussed in detail the intricate problem arising out of the application of workmen's compensation to maritime law, interstate commerce, and extraterritoriality. Dealing with the subject, How Far Workmen's Compensation Acts Can Apply to Maritime Law, Interstate Commerce, and the Doctrine of Extraterritoriality, he reviewed several decisions of courts on the three subjects and drew various conclusions of law as the several subjects stand to-day in the courts. The subject of The Legal Situation as to Second-Injury Cases, and the Necessity for Separate Funds for Such Cases, was discussed by Mr. Charles F. Sharkey, United States Bureau of Labor Statistics. He urged the creation of a separate fund for second-injury cases. The convention moved that the workmen's compensation legislation committee of the association be empowered to draft a provision for the establishment of a second-injury fund in those States which have not at the present time a provision for taking care of such cases. The motion specified that a draft of such legislation should be submitted to the various States for their consideration and possible adoption at the next regular session of the legislatures in 1933.

The fourth day of the convention was devoted to the medical aspect of workmen's compensation. This subject was covered by several doctors in the following papers: Medical Problems in Compensation Administration; Conclusions from an Experience of 11 Years' Service, by Dr. C. W. Roberts, medical adviser, Department of Industrial Relations of Georgia; The Traumatic Head Case, by Dr. F. B. Harrington, chief surgeon, Weirton Steel Co., Weirton, W. Va.; Functional

Neuroses; Their Nature and Relation to Injury, by Dr. George T. Harding, jr., Worthington, Ohio; Some Common Health Hazards in Industry, by Dr. Emery R. Hayhurst, consultant in industrial hygiene, Ohio State Department of Health, Columbus, Ohio; and What Determines Compensability of Skin Diseases Among Industrial Workers, by Dr. Carey P. McCord, director, Industrial Health Conservancy Laboratories, Cincinnati, Ohio.

The following officers were elected for the ensuing year: President, R. E. Wenzel, commissioner of Workmen's Compensation Bureau, Bismarck, N. Dak.; vice president, Charles A. Nowak, chairman, Industrial Commission of Illinois; and secretary-treasurer, Charles E. Baldwin, Acting Commissioner of Labor Statistics, Washington, D. C. The executive committee includes Wellington T. Leonard, Ohio; Parke P. Deans, Virginia; F. W. Armstrong, Nova Scotia; Fred M. Wilcox, Wisconsin; J. A. Parks, Massachusetts; and Walter O. Stack, Delaware. The association elected Ethelbert Stewart, secretary-treasurer emeritus.

The next annual meeting will be held in Chicago, September 11 to 15, 1933.

Twenty-First National Safety Congress, 1932

THE twenty-first congress of the National Safety Council, representing the organized safety movement of America, was held in Washington, D. C., October 3 to 7. It was attended by some 4,000 delegates from all over the country and also by delegates from Canada, England, Mexico, and Venezuela.

Following the usual custom, the congress was opened by a general session, at which a tribute to the importance of the council's work was paid by President Hoover in a letter read to the members by C. M. Berquist, president of the council, who presented the opening address. A resolution was adopted, pledging the council to renewed and increased activity for the promotion of public, industrial, home, and school safety. The John A. Holmes award for continuous safety achievement was presented to the Lehigh Portland Cement Co., of Allentown, Pa., which has operated some of its branch plants for more than six consecutive years without accidents of any kind.

After the opening session the congress broke up into 32 individual sections for the study of the special safety problems in particular fields. The congress program, which covered all phases of safety work, included 120 different sessions and about 350 speakers of prominence and authority in their respective fields.

The United States Secretary of Labor, William N. Doak, addressing the construction section, pointed out that the safety laws relating to factory inspection, mine inspection, public buildings, and transportation now in force in the United States were originated by the workers themselves, who were exposed to the dangers of unprotected machinery and loose methods of management.

Special attention was given at the congress to the problems of industrial health, including dust hazards from both the health and engineering viewpoints. It was explained that the rapidly expanding use of chemicals has created serious safety problems, affecting not only production but also shipment and use. The mental factor in accidents arose as a controversial subject, one speaker blaming mental

attitudes for the majority of industrial accidents, while another speaker emphasized that carelessness was a poor excuse and accident proneness a poor alibi for a high personal or departmental accident record.

Street and highway traffic, railroad, and aviation safety were also covered extensively, and particular attention was paid to hazards in the home. An interesting feature of the congress was a demonstration of explosions caused by the combustion of various dusts—wood, cork, charcoal, grain, flour, starch, baking powder, soap, milk, and sugar dusts. The demonstration was staged in a miniature factory, under the auspices of the Department of Agriculture, to show the delegates how easily explosions of such dust may occur in industrial buildings and to demonstrate how to avoid excessive destruction of life and property from such explosions. Another important feature was the exhibit of modern equipment for the promotion of safety and health in industry and in public places, which included displays by some of the Federal agencies—the Department of Commerce, the Department of Labor, the Department of the Navy, and the Bureau of Mines.

The following new officers were elected for the ensuing year: President, J. I. Banash, consulting engineer, Chicago, Ill.; vice president for industrial safety, George H. Warfel, Union Pacific System, Omaha, Nebr.; vice president for public safety, R. I. Catlin, Aetna Life Insurance Co., Hartford, Conn.; and vice president for health, Dr. Cassius H. Watson, American Telephone and Telegraph Co., New York, N. Y. The other officers of the council were reelected.

WORKERS' EDUCATION AND TRAINING

Apprenticeship in Wisconsin

IN 1915 Wisconsin revised its laws concerning apprenticeship, establishing a framework within which the industrial commission could exert real influence in encouraging and directing training in the trades. The plan is intended to make it certain that every apprentice shall have a real chance to learn his chosen trade, and also that, in order that he may acquire the technical knowledge required, he shall be permitted to attend the public schools on the employer's time for a minimum of 400 hours during his apprenticeship. To accomplish this, the employer and the apprentice sign written agreements, setting forth the term of apprenticeship, the processes or branches of the trade to be taught, and the wages to be paid. These indentures are signed in triplicate, and one copy must be filed with the Wisconsin Industrial Commission in Madison. The apprentice is thenceforth subject to the supervision of the commission, which sees that the agreement is carried out or which may, if need arises, allow it to be canceled. If the term of training is satisfactorily completed, the commission gives the learner a diploma certifying the fact. The vocational schools give courses helping prospective apprentices to find their proper pursuit, and local advisory committees have been set up in various trades, consisting of several journeymen and an equal number of employers, to take immediate supervision of the admittance and training of learners.

Approximately 85 of these joint advisory committees are functioning in various cities of the State, principally in the trades of plumbing, electricity, and painting and decorating. These committees can establish definite entrance requirements, fix a ratio of apprentices to journeymen, adjust disagreements between apprentices and masters, supervise training, discipline apprentices or employers, examine graduate apprentices as to their fitness to enter the ranks of the journeymen, and, in general, practically take charge of the local apprenticeship program in their trade.

In addition to these, State joint committees have been established in some of the principal trades, which work not only for the improvement of the apprenticeship system, but for the improvement of conditions for the whole craft. The apprenticeship system, therefore, it is pointed out, is far more than a mere matter of indenturing apprentices, and looks toward a rounded-out program of betterment for the individual trades and for industry as a whole.

In its official publication, Wisconsin Labor Statistics, for July, 1932, the industrial commission gives some data as to the situation in the State from the early days of the system. The following table shows the number of apprenticeship contracts approved each year from 1912 to 1931, inclusive, and also the number canceled,

the number carried to completion, and the number as to the disposition of which no records exist. The cancellations and the "no record" cases are listed as of the year in which the contract was signed rather than of the year in which the cancellation took place.

TABLE 1.—APPRENTICESHIP INDENTURES IN WISCONSIN, 1912 TO 1931

Year	Number approved	Number canceled	Carried to completion	No record of disposition
1912	5	2	2	1
1913	15	8	7	----------
1914	21	9	12	----------
1915	188	103	80	5
1916	429	236	181	12
1917	515	277	221	17
1918	332	157	162	13
1919	350	186	145	19
1920	563	259	265	39
1921	421	225	151	45
1922	662	303	307	52
1923	798	357	384	57
1924	778	372	345	61
1925	821	372	384	64
1926	794	317	384	48
1927	679	226	235	28
1928	656	176	90	4
1929	755	189	47	3
1930	376	58	4	----------
1931	73	3	----------	----------
Total	9,231	3,835	3,406	468

It will be noticed that the number of contracts signed was small up to the change in the law in 1915, after which it increased rapidly, reaching its peak in 1925. For the next four years the number fluctuated, with a downward tendency, but in 1930 it decreased by 50 per cent as compared with 1929, and in 1931 only 73 contracts were signed. The industrial situation is held accountable for these changes.

Employment conditions very directly affect the opportunity for apprenticeship training. The depression periods of 1921, 1924, 1927, and 1929–1932 each recorded a very pronounced setback with regard to the number of new indentures issued.

Proportion of Contracts Completed

FOR the period 1912 to 1926, inclusive, the total number of contracts approved was 6,646, of which 3,030 were carried through to completion, 3,183 (or 48 per cent) were canceled, while for 433 (6 per cent) the disposition is unknown. In considering these proportions the duration of the apprenticeship term (in most cases four years) must be remembered. Also, it must be borne in mind that most of those entering apprenticeship are rather young to make a lasting decision affecting their whole future life.

An apprenticeship indenture may turn out to be an exploratory adventure in which the apprentice reaches the conclusion that his aptitudes, abilities, and interests are not suitable to the requirements of the trade undertaken by him. The period of the first three months of an apprenticeship term is generally considered as a try-out or probationary period. Experience shows that approximately one-half of all cancellations of indentures are made within the first year of apprenticeship and that most of these occur within the three months' probationary period.

The proportion of indentures carried through to completion varies considerably in the different trades.

Of all apprenticeship indenture contracts issued during the 15-year period, 1912 to 1926, the proportion of all contracts completed stands at 51 per cent for the building trades, 45 per cent for metal trades, 50 per cent for the printing trades, 49 per cent for the garment trades, 47 per cent for the railroad trades, 34 per cent for the automotive trades, and 39 per cent for a group covering all other trades. Among the building trades the proportion of all contracts completed stands as follows: Bricklayer and mason, 60 per cent; carpenter, 25 per cent; electrician, 43 per cent; painter and decorator, 50 per cent; plasterer, 44 per cent; plumber, 51 per cent; sheet-metal worker, 64 per cent.

Distribution of Apprenticeships by Industries

TABLE 1 shows that during the period 1912 to 1931 a total of 9,231 apprenticeship contracts was approved by the industrial commission and that 3,406 were carried through to completion. The number and proportion of these found in each industry group are as follows:

TABLE 2.—INDUSTRIAL DISTRIBUTION OF APPRENTICESHIP CONTRACTS APPROVED AND CARRIED TO COMPLETION

Industry group	Approved		Carried to completion	
	Number	Per cent	Number	Per cent
Building trades	1,413	15.3	485	14.2
Metal trades	5,154	55.8	1,905	55.9
Printing trades	312	3.4	122	3.6
Garment trades	170	1.8	81	2.4
Automotive trades	76	.8	26	.8
Railroad trades	987	10.7	420	12.3
Miscellaneous trades	1,119	12.1	367	10.8
Total	9,231	100.0	3,406	100.0

The distribution of the completed contracts corresponds closely with that of the contracts approved, though the building and miscellaneous trades show slightly less than their proportion of completions; the difference, however, is small.

In considering the distribution of the apprentices, the report points out that the number of learners in a trade may greatly exceed the number of apprentices. Many young people enter a trade informally, picking it up as best they may. As to the marked differences in the number of apprentices in the different trade groups, several reasons are assigned:

Chief among them is the degree of interest the membership of a craft takes in the problem of apprenticeship. The metal-trades group has shown an active interest in trade training for more than 25 years, and in fact, was largely responsible for the enactment of Wisconsin's first apprenticeship law in 1911. As a result of this interest the metal trades have thus far indentured a total of 5,154 learners, as against 1,413 in the building trades.

The extent of organization of the workers in a trade may be mentioned as another reason why a trade makes a good or bad showing in the number of learners indentured. No matter how concerned leaders among journeymen or employers may be over the apprenticeship situation in their trades, they are powerless to effect a lasting remedy until the membership is better organized.

Low trade standards likewise can materially affect apprenticeship conditions. When a trade is overflowing with inefficient workmen wages naturally are low and, since anyone with only a smattering of trade knowledge and experience seems able to find a place in the trade, there remains no incentive for a boy to bind himself to serve an apprenticeship covering a period of years.

INDUSTRIAL DISPUTES

Strikes and Lockouts in the United States in September, 1932

DATA regarding industrial disputes in the United States for September, 1932, with comparable data for preceding months are presented below. Disputes involving fewer than six workers and lasting less than one day have been omitted.

Table 1 shows the number of disputes beginning in 1927, 1928, 1929, 1930, and 1931, the number of workers involved and man-days lost for these years and for each of the months, January, 1930, to September, 1932, inclusive, as well as the number of disputes in effect at the end of each month and the number of workers involved. The number of man-days lost, as given in the last column of the table, refers to the estimated number of working-days lost by workers involved in disputes which were in progress during the month or year specified.

TABLE 1.—INDUSTRIAL DISPUTES BEGINNING IN AND IN EFFECT AT END OF EACH MONTH, JANUARY, 1931, TO SEPTEMBER, 1932, AND TOTAL NUMBER OF DISPUTES, WORKERS, AND MAN-DAYS LOST IN THE YEARS, 1927 TO 1931

Month and year	Number of disputes		Number of workers involved in disputes		Number of man-days lost in disputes existing in month or year
	Beginning in month or year	In effect at end of month	Beginning in month or year	In effect at end of month	
1927: Total	734	----------	349,434	----------	37,799,394
1928: Total	629	----------	357,145	----------	31,556,947
1929: Total	903	----------	230,463	----------	9,975,213
1930: Total	653	----------	158,114	----------	2,730,368
1931: Total	894	----------	279,299	----------	6,386,183
1931					
January	57	19	10,150	2,905	181,169
February	52	29	20,473	10,677	223,660
March	49	26	26,453	28,012	476,904
April	73	39	27,135	22,687	770,512
May	115	46	28,000	15,603	400,509
June	90	47	18,795	15,223	511,926
July	73	51	49,434	56,683	612,864
August	79	36	11,019	14,759	1,157,013
September	117	65	36,092	37,427	493,649
October	77	45	34,384	29,380	1,052,095
November	62	39	13,219	13,690	355,818
December	50	21	4,145	1,318	150,064
1932					
January	79	37	11,105	4,648	117,298
February	50	30	31,140	28,691	417,966
March	51	28	31,966	11,660	685,949
April	73	34	17,707	20,066	572,121
May	79	43	43,403	49,232	1,220,202
June	64	38	16,010	23,540	927,996
July	58	37	19,657	32,597	700,985
August [1]	68	34	29,508	29,205	747,920
September [1]	59	41	16,930	9,707	555,341

[1] Preliminary figures subject to change.

Occurrence of Disputes

TABLE 2 gives by industrial groups, the number of strikes beginning in July, August, and September, 1932, and the number of workers directly involved.

TABLE 2.—INDUSTRIAL DISPUTES BEGINNING IN JULY, AUGUST, AND SEPTEMBER, 1932

Industrial group	Number of disputes beginning in—			Number of workers involved in disputes beginning in—		
	July	August	September	July	August	September
Bakers	3			34		
Barbers	1		1	50		150
Broom and brush workers	1		1	17		85
Building trades	11	11	4	10,510	293	73
Chauffeurs and teamsters	3	1	3	195	19	138
Clothing	16	22	13	1,001	18,989	10,139
Fishermen		1			1,500	
Food workers		1	2		21	42
Furniture	1	4	4	300	1,073	363
Hotel and restaurant workers	1			70		
Iron and steel	1	1		150	12	
Laundry workers		1			700	
Leather			1			20
Longshoremen and freight handlers			1			65
Metal trades			2			317
Miners	3	3		700	487	
Motion-picture operators, actors, and theatrical workers	3	1	2	39	10	60
Printing and publishing	3	3	2	59	147	816
Steamboat men			1			60
Municipal workers	1			35		
Textiles	7	14	18	6,387	2,737	4,152
Other occupations	3	5	4	110	3,520	450
Total	58	68	59	19,657	29,508	16,930

Size and Duration of Disputes

TABLE 3 gives the number of industrial disputes beginning in September, 1932, classified by number of workers and by industrial groups.

TABLE 3.—NUMBER OF INDUSTRIAL DISPUTES BEGINNING IN SEPTEMBER, 1932, CLASSIFIED BY NUMBER OF WORKERS AND BY INDUSTRIAL GROUPS

Industrial group	Number of disputes beginning in September, 1932, involving—					
	6 and under 20 workers	20 and under 100 workers	100 and under 500 workers	500 and under 1,000 workers	1,000 and under 5,000 workers	5,000 and under 10,000 workers
Barbers			1			
Broom and brush workers		1				
Building trades	2	2				
Chauffeurs and teamsters		3				
Clothing	2	6		2	2	1
Food workers		2				
Furniture	1	2	1			
Leather		1				
Longshoremen		1				
Metal trades	1		1			
Motion-picture operators, actors, and theatrical workers	1	1				
Printing and publishing	1			1		
Steamboat men		1				
Textiles	1	6	9		2	
Other occupations		3	1			
Total	9	29	13	3	4	1

In Table 4 are shown the number of industrial disputes ending in September, 1932, by industrial groups and classified duration.

TABLE 4.—NUMBER OF INDUSTRIAL DISPUTES ENDING IN SEPTEMBER, 1932, BY INDUSTRIAL GROUPS AND CLASSIFIED DURATION

Industrial group	Classified duration of strikes ending in September, 1932				
	One-half month or less	Over one-half and less than 1 month	1 month and less than 2 months	2 and less than 3 months	7 and less than 8 months
Broom and brush workers	1				
Building trades	3	1		1	
Chauffeurs and teamsters	1				
Clothing	8	1	2		
Food workers	1				
Furniture	5	1			
Longshoremen	1				
Metal trades	1				
Miners					1
Motion-picture operators, actors, and theatrical workers		2			
Printing and publishing	2				
Textiles	11	2	1		
Other occupations	4	1	1		
Total	38	8	4	1	1

Conciliation Work of the Department of Labor in September, 1932

By HUGH L. KERWIN, DIRECTOR OF CONCILIATION

THE Secretary of Labor, through the Conciliation Service, exercised his good offices in connection with 54 labor disputes during September, 1932. These disputes affected a known total of 5,896 employees. The table following shows the name and location of the establishment or industry in which the dispute occurred, the nature of the dispute (whether strike or lockout or controversy not having reached the strike or lockout stage), the craft or trade concerned, the cause of the dispute, its present status, the terms of settlement, the date of beginning and ending, and the number of workers directly and indirectly involved.

There were 21 cases involving the law on the prevailing rate of wages. In these cases it is not always possible to show the number involved, due to lack of information as to total number required before completion of construction.

On October 1, 1932, there were 18 strikes before the department for settlement and, in addition, 47 controversies which had not reached the strike stage. The total number of cases pending was 65.

LABOR DISPUTES HANDLED BY THE CONCILIATION SERVICE DURING THE MONTH OF SEPTEMBER, 1932

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Beginning	Ending	Directly	Indirectly
					1932	1932		
Kean-Bedell Co. (Inc.), Woburn, Mass.	Controversy	Tanners	Piecework rate cut from 3½ to 3 cents per side.	Adjusted. Accepted 3-cent rate for 30-day test.	Sept. 2	Sept. 22	100	------
Woburn Degreasing Co., Woburn, Mass.	------do------	Leather workers	Signing of agreement	Adjusted. Agreement waived by workers.	Sept. 3	Sept. 23	15	------
School building, Scranton, Pa	------do------	Building workers	Wages and outside labor	Adjusted. Satisfactory wages and local workers largely employed.	Sept. 8	Sept. 10	30	------
Art Knitwear Mills (Inc.), New York City.	Strike	Knitters and machine operators.	Wages, hours, and conditions	Adjusted. Allowed 5 to 10 per cent increase; 44-hour week.	Aug. 31	Sept. 7	182	20
Billposters, Wilkes-Barre, Pa	------do------	Bill posters	Reduction of force; 2 discharged	Adjusted. Reemployed 2; others later.	Sept. 1	Sept. 30	4	------
City courthouse, San Jose, Calif	Controversy	Building workers	Wages and working conditions	Pending	Sept. 7	----------	(1)	------
Fishing vessels, Erie, Pa., Dunkirk, N. Y., and Cleveland, Ohio.	Strike	Captains and engineers.	Wage cuts by substitution of share plan.	Adjusted. Allowed $5 for fishing, $4 per day for shore work, and 2 per cent of total catch.	Sept. 15	Sept. 28	60	200
Long & Evans (Inc.), Louisville, Ky.	------do------	Tailors	Wage cut 17 per cent	Pending	Sept. 10	----------	15	------
Meredith Publishing Co., Des Moines, Iowa.	Controversy	Printing trades	Wages and working conditions	------do------	Sept. 8	----------	73	450
M. Marsh & Sons Wheeling, W. Va.	------do------	Stogie makers	Proposed wage cut	Adjusted. Arbitration award of commissioner accepted.	Aug. 15	Sept. 15	374	------
A. Barbano (Inc.), New York City	Strike	Clothing workers	Prices for making coats reduced	Adjusted. Settled by parties at interest.	Sept. 12	---do----	80	5
Polonia Bakery, Detroit, Mich	Lockout	Bakery workers	Asked union rates and conditions	Unable to adjust	July 4	Sept. 26	10	155
Federal Reserve Bank, Philadelphia, Pa.	Controversy	Engineers	Engineers receiving $1 per hour; claimed $1.25.	Adjusted. Continued at $1 per hour.	Sept. 10	Sept. 23	2	40
Fish packers and canners, Biloxi, Miss.	Strike	Shrimp and oyster workers.	Protest against low wages	Adjusted. Settled	Aug. 15	Oct. 7	1,500	------
Murray Knitwear Co., Brooklyn, N. Y.	------do------	Knitters and operators.	Wages, hours, and conditions	Adjusted. Wages readjusted, shorter week, and shop committee appointed.	Sept. 26	Oct. 3	125	10
Rex Products Corporation, and Rex Novelty Works (Inc.), New York City.	------do------	Carvers, engineers, etc.	Wages, speed-up system, and discharges for union activity.	Pending	Sept. 7	----------	300	40
De Luxe Sportwear Mills (Inc.), Brooklyn, N. Y.	------do------	Knitters and operators.	Wages and hours	Adjusted. Allowed 44-hour week; wage increases allowed.	Sept. 8	Sept. 9	35	7
B. Steinman Co., New York City	------do------	Metal and frame workers.	Asked restoration wage cuts and legal holidays.	Adjusted. Satisfactory agreement	Sept. 13	Sept. 13	15	------
Claire Knitting Mills (Inc.), Bronx, N. Y.	------do------	Knitters	Protest wage cuts	------do------	Sept. 8	Sept. 9	60	8
Stalman Co. (Inc.), East Pitts-	------do------	Clothing workers	Workers asked additional help	Pending	Sept. 23	----------	80	60

Stalman Co. (Inc.), East Pittsburgh, Pa.	do	Clothing workers	Workers asked additional help	Pending	Sept. 23		80	60
Government construction work								
Dirigible hangar, Sunnyvale, Calif.	Controversy	Iron and sheet-metal workers.	Wages and jurisdiction	Pending. Iron workers' rate settled at $9 per day.	Sept. 3		15	
Veterans' Hospital, Des Moines, Iowa.	do	Building workers	Prevailing-wage scale not being paid.	Adjusted. Contractor agreed to pay carpenters 70 cents per hour.	Sept. 2	Sept. 24	18	475
Post-office building, Kansas City, Mo.	do	Carpenters and iron workers.	Jurisdiction of work on mail conveyor system.	Pending	Sept. 1		(1)	
Government warehouse, Washington, D. C.	Strike	Plasterers, tile setters, and carpenters.	Jurisdiction of acoustical tile and mastic floors.	Adjusted. Compromised by division of work.	Aug. 20	Sept. 2	40	160
Post-office building, Fall River, Mass.	Controversy	Painters	Dispute relative wages	Pending. (Prevailing-wage law does not apply.)	Sept. 1		(1)	
Highway construction, Massachusetts.	do	Engineers	Engineers classed as laborers	Pending	Sept. 8		(1)	
Post-office building, Boston, Mass.	do	Bricklayers and iron workers.	Jurisdiction of pointing windows	do	Sept. 14		163	146
Veterans' Hospital, Aspinwall, Pa.	do	Plasterers	Alleged violation prevailing-wage law and Executive order.	Adjusted. All conditions remedied.	Sept. 12	Sept. 14	8	50
Post-office building, New Kensington, Pa.	Strike	Iron workers	Prevailing rates and general conditions.	Pending. Rates fixed but still under discussion.	Sept. 8	do	4	25
Dirigible hangar, Sunnyvale, Calif.	Controversy	Carpenters and other building crafts.	do	do	Sept. 3		65	385
Marine Hospital, St. Louis, Mo.	do	Boiler men	do	Adjusted. Rates for all crafts fixed.	Sept. 15	Sept. 23	20	
Post-office building, Aurora, Ill.	do	Sheet-metal workers.	Alleged failure to pay prevailing wages.	Adjusted. Satisfactory agreement.	Sept. 18	Sept. 26	(1)	
Post-office building, Ann Arbor, and Federal prison, Milan, Mich.	do	Building crafts	Local labor not employed; prevailing wages.	Pending	Sept. 11		30	120
Veterans' Hospital, Perry Point, Md.	do	do	Prevailing rate fixed but not paid.	do	Sept. 14		(1)	
Marine Hospital, Evansville, Ind.	do	Carpenters, bricklayers, and sheet-metal workers.	Local labor and delay in wage payments.	Adjusted. Local labor employed.	Sept. 1	Sept. 15	19	50
Post-office building, Knoxville, Tenn.	do	Painters	Prevailing-wage discussion	Adjusted. Painters 70 cents and glaziers 60 cents per hour.	July 6	do	20	80
Immigration station, Douglas, Ariz.	do	Building workers	Prevailing-wage investigation	Pending	Sept. 6		10	
Building, Winslow, Ariz.	do	do	do	Adjusted. Laborers and drivers 40 cents and teams 75 cents per hour.	do	Sept. 26	16	
Post-office building, Monterey, Calif.	do	do	do	Pending	Sept. 20		30	50
Post-office building, Chattanooga, Tenn.	do	Iron workers	Local labor	Adjusted. Agreed to use equal number of local and outside men. Prevailing wage also fixed.	Sept. 1	Sept. 17	20	80
Post-office building, Knoxville, Tenn.	do	Steel and iron workers.	do	Pending	Sept. 19		25	100
Bricklayers, Jackson, Mich.	do	Bricklayers	Prevailing-wage discussion	do	Aug. 31		(1)	

[1] Not reported.

LABOR DISPUTES HANDLED BY THE CONCILIATION SERVICE DURING THE MONTH OF SEPTEMBER, 1932—Continued

Company or industry and location	Nature of controversy	Craftsmen concerned	Cause of dispute	Present status and terms of settlement	Duration		Workers involved	
					Beginning	Ending	Directly	Indirectly
Marine Hospital, Seattle, Wash.	Controversy	Plasterers and cement finishers.	Objection to contractor's method of rotation.	Adjusted. Contractor agreed to retain system desired.	1932 Sept. 1	1932 Sept. 21	33	167
Soldiers' Home, Danville, Ill.	do	Boilermakers	Alleged violation prevailing-wage law.	Adjusted. Allowed $1.35 per hour.	Sept. 22	Oct. 3	20	14
Post-office building, Salem, Mass.	Threatened strike.	Carpenters	do	Adjusted. Prevailing wage will be paid for remainder of job.	Sept. 25	Sept. 27	33	8
Post-office building, Elko, Nev.	Controversy	Building workers	Prevailing-wage investigation	Pending	Sept. 20		(1)	
Post-office building, Las Vegas, Nev.	do	do	Alleged violation prevailing-wage law.	Pending. Laborers 50 cents and carpenters 75 cents per hour. Others pending.	Sept. 25		16	
Veterans' Home, Biloxi, Miss.	do	Hoisting engineers	do	Pending	Sept. 21		(1)	
Marine Hospital, Seattle, Wash.	do	Lathers	Working conditions	Adjusted. Satisfactory arrangement of conditions.	Sept. 15	Sept. 22	10	190
Post-office building, Stockton, Calif.	do	Hod carriers	Prevailing-wage investigation	Adjusted. Hod carriers $6 and hoisting engineers $8 per day.	do	Oct. 7	11	50
Post-office building, Waterbury, Conn.	Threatened strike.	Plasterers	Dispute relative payment of rate	Adjusted. Agreed to pay $1.65 per hour as determined for this job.	Sept. 23	Sept. 29	5	40
Post-office building, Lockport, N. Y.	Controversy	Building workers	Alleged violation 8-hour day and prevailing-wage law.	Pending	Sept. 22		10	10
Veterans' Hospital, St. Cloud, Minn.	do	do	Prevailing-wage investigation	do	Sept. 19		(1)	
Atlantic Wrecking Co., Lynn, Mass.	do	Wreckers	Protest against wage rates	Adjusted. Allowed 50 cents per hour.	Sept. 29	Oct. 3	(1)	
Total							2,701	3,195

[1] Not reported.

Lancashire Cotton Weavers' Strike and Terms of Settlement [1]

THE strike of the cotton weavers of Lancashire, England, which began on August 27, was the culmination of a long period of struggle and disagreement. The basic trouble was generally conceded to be twofold: The overcapitalization of the industry in the boom period following the war and the growing competition in the world market, where the cheaper products of the oriental countries are displacing English cottons. It was essential, the employers said, that costs should be reduced. The employees agreed, but insisted that this should be done through a reorganization of the industry and that the savings which could be effected through a cut in wages were so small relatively that it was not worth while to submit to it unless it were coupled with some more far-reaching movement. Some, at least, of the employers agreed with this view, and for several years past efforts have been made to unite the owners in a move to reduce plants and retire superfluous equipment; but they have failed to secure the support of a sufficient number of the manufacturers, and the situation has grown progressively worse.

For more than a year past there had been trouble in the industry over wage rates and over an effort to introduce the more-looms system, under which a weaver might be required to operate six or more looms in place of four, which had been the maximum number. Wage rates were governed by an agreement between the associated employers and the unions of the workers, which could be changed only by the consent of both parties. Either side, however, had the right to terminate the agreement by giving one month's notice. In the spring of 1932 some employers lost patience over the seeming impossibility of coming to terms with the operatives, and began as individuals to cut wage rates in their own establishments, regardless of the agreement. This led to a series of strikes, the unions insisting that the wage scale must remain as set forth in the collective agreement unless this were changed by the prescribed method. The strikes were of varying degrees of completeness, but many of the employers who broke away from the agreement succeeded in making their cuts effective. The situation was complicated by several strikes which occurred about the same time over the more-looms question.

On May 10, the Cotton Manufacturers' Association of Lancashire gave a month's notice of its intention to terminate all wages and hours agreements, so that from June 11 onward there was no agreement in that section of the cotton industry. Serious but unsuccessful efforts were made to set up a new agreement. The manufacturers stood firm in their intention of imposing a cut in wages, while the unions, though accepting the principle of a cut, objected to the amount proposed. After prolonged negotiations the manufacturers reduced their proposal to a cut of 10 per cent, while the unions raised their point of acceptance to a cut of 6.8 per cent. It was generally felt that this difference would be compromised, when an obstacle arose which entirely eclipsed the wage question. All wage cuts enforced before June 11 had been in contravention of the existing agreements, and the unions insisted that where workers had been called out on strike against such cuts they must be reinstated as a part of the new agreement. The

[1] Data are from Economist (London), Sept. 3, 1932 (p. 419); Manchester (England) Guardian, issues of Aug. 17 and 26, Sept. 16, 23, 24, 26, and 29, 1932; and reports from A. R. Thomson, American consul at Manchester, Sept. 10 and Sept. 27, 1932.

manufacturers refused to entertain this proposal, and negotiations were broken off. The break took place on August 9, and after the matter had been referred back to the unions, a strike was called to begin August 27.

Lancashire, which had been severely hit by the general depression as well as by the difficulties of the cotton trade, was in no condition to stand the damage of a hard-fought strike, and public interest in some way of averting the proposed stoppage was keen. It was hoped at first that one side or the other would seek a renewal of the negotiations, but neither would do this, and neither showed any disposition to yield on the matter of reinstatement, the employers being particularly emphatic as to this:

> Mr. John Grey, on behalf of the employers, has replied that they will not take the initiative in calling a meeting and, moreover, that they will not give way on the question of reinstatement. Mr. Grey said explicitly yesterday:
> "We shall not accept any outside intervention from any source on the question of the reinstatement of operatives. This is a position from which we can not recede."

The representatives of the operatives contented themselves, when sounded on the matter, with making their position clear, without expressing any objection to outside intervention.

> The central board of operatives is anxious that it should be known that its demand for reinstatement has nothing to do with the more-looms question in any shape or form. * * * The board will not fight for the reinstatement of operatives displaced by more-looms systems. The type of reinstatement for which the central board stands is that of mills where all the old operatives have been displaced by nonunionist labor from other districts.

By August 24 the deputy mayor of Manchester succeeded in getting the two sides together at his office, but this conference, like the earlier negotiations, split on the rock of reinstatement.

> The operatives' representatives asked for the immediate reinstatement of the operatives displaced at mills before June 11 and contended strongly that they were bound to stick to those who came out in defense of and in loyalty to collective agreements. The word "immediate" may not be taken literally, for the process of reinstatement might obviously take a little time, perhaps six or seven weeks. There is reason to believe that some such period might form the basis of an agreement.
> The employers contended that they also were under an obligation to the workpeople who had been taken on by firms when the old workpeople refused to accept new wage terms. They repeated their former offer to reinstate the old operatives as and when vacancies occur, and added to it a suggestion to hold a joint meeting with the unions in six months' time to reconsider the position.

The strike, which began on August 27 was far more nearly complete than had been anticipated. Exact figures are hard to get, but it is generally conceded that from 150,000 to 160,000 came out, and at times claims were made that the strikers numbered over 200,000. Other trade-unions rallied to the support of the cotton workers. There seemed to be a feeling that the latter were fighting for the whole labor position and that if they were defeated wage cuts and worsened conditions might be looked for in every direction. The annual convention of the Trade Unions Congress, which opened on September 5, passed resolutions of sympathy and pledged support:

> Having heard the case of the cotton unions, the congress pledges itself to support by all means in its power the fight for trade-union standards of life, for the reinstatement of workers who have lost employment owing to their defense of trade-union principles and for the sanctity of trade-union agreements.

Congress instructs the general council to organize all possible moral and financial assistance to help the cotton workers in their magnificent struggle, and calls on all wage earners and sympathizers through the country to respond to this appeal.

The congress also decided to launch a movement for a campaign fund for the cotton strikers, the amount for which it appealed being £500,000. The railway unions promptly voted a grant of £5,000 toward this fund, and other unions joined cordially in the movement.

The strikers found further encouragement in the attitude of several influential sections of the press, some of which held that the employers had put themselves in the wrong by refusing the reinstatement of workers who had struck against reductions enforced in defiance of agreements, while some, in addition, felt that the wage-reduction policy was of doubtful wisdom. The Economist (London) expressed misgivings on this point:

Nor does it [the public] know what purpose the employers imagine would be achieved by a wage reduction which was not accompanied by a wholesale reorganization of the structure of the cotton industry. Though clearly, in an internationally competitive industry, no particular level of wages has the right to be regarded as sacrosanct, it is at least arguable that a general wage reduction might have little effect except to perpetuate "weak selling"; and the idea that a close approximation of wages in Lancashire to those in Japan is socially or politically possible can not for a moment be entertained. If there is to be a general wage reduction in Lancashire, there is much to be said for the proposal that the amount of labor costs so saved should be pooled as part of a fund, to which the employers would equally contribute, to further the rationalization of the industry.

Terms of Settlement

THE Government was reluctant to interpose, fearing the result of an unsuccessful attempt to bring the opponents together, but as the strike continued and its effects became more widely felt, intervention seemed unavoidable, and on September 8 the Minister of Labor issued an invitation to both sides to meet with a Government representative and seek a way out of the difficulty. At the first meeting, held on September 13, the Government representative suggested that the collective agreements by which the industry had been controlled for years past had broken down completely and that the restoration of effective collective bargaining was certainly as important as the matters of wages and reinstatement. He therefore proposed that a committee of members from each side should be appointed to consider and report back on what matters the conference might usefully discuss, and in what order. The special advantage of this was that it brought the antagonists together on new ground, on which, as yet, they had not arrayed themselves in opposition, and left the questions on which they were deadlocked until some degree of harmony had been secured. The proposal was accepted, and on September 15 the committee reported that the subjects of immediate urgency on which they had decided it would be well to confer were: (1) Reestablishment of collective bargaining and restoration of agreements, (2) machinery to insure the honoring of any agreement reached, (3) wages, and (4) reinstatement. Later on, they held, reorganization of the industry and the examination and revision of the price list might well be taken up.

Agreement on the first two subjects proved easy, and on September 17 a statement was issued of the terms on which the two sides had agreed. The joint bargaining plan of the old agreement was to be

retained, but certain additions were made to prevent such deadlocks as had brought about the stoppage. Of these, the most important was a conciliation committee to bring outside opinion to bear upon any dispute on which the two sides could not reach agreement. The question of wages was harder to settle, but by September 23 the employees' representatives had agreed to accept a cut of 8.49 per cent on earnings, which meant approximately 1s 8½d. in the pound. The employers' first demand had been for a cut of 3s. 6d. in the pound, which by the time the August negotiations broke down had been modified to 2s. in the pound, while the employees at that time had agreed to accept a reduction of 1s. 4½d. in the pound, so that the agreement embodied concessions from both sides. This left only the question of reinstatement at issue, but this was the most difficult of all, and for a time it seemed as if the whole settlement might be wrecked. The solution of the problem was due to the skill of the Government mediator, who, as neither side would make any change in its proposals, offered a compromise of his own and persuaded the contestants, with considerable difficulty, to accept it. On September 24 the terms of settlement were publicly announced, and the ratification by both sides was accomplished in time to permit the mills to open on Wednesday, September 28, after a stoppage of a full month. The effects of the agreement reached are thus summarized:

Wages.—A reduction of 15½ per cent on the list (i. e., from 182½ per cent on list to 167) or nearly 8½ per cent on earnings, or 1s. 8½d. in the pound.

Reinstatement.—An undertaking by the central body of employers to recommend its local associations strongly to persuade all their members "to offer employment as speedily as possible to all operatives who have been displaced." Immediate arrangements are to be taken up jointly in the districts. If any difficulty exists at the end of two months the situation will be reviewed jointly by the central organizations. Any difference then existing would come under the joint rules.

More looms.—Mills on more-looms systems are to resume work at the old rates. No further extension is to be attempted until the two sides have dealt with under the joint rules "the matters in dispute on the questions of prices and conditions for the more-looms-to-a-weaver system." This consideration is to be completed within two months.

The joint rules.—The joint rules are to be amended to provide for the setting up of a conciliation committee, with a standing independent chairman and two standing independent members chosen by the two sides, who are to assist them when the ordinary procedure of joint negotiation has failed to secure agreement.

A prices committee.—A committee of four from each side is to be formed with full power to settle what prices have to be paid for new cloths and to deal with interpretations of list prices and wage rates.

Minor differences.—More expeditious treatment of minor differences.

Standing committees.—The two sides are to appoint a standing committee "to examine economic and legislative matters both at home and abroad which affect the industry."

By the general public the settlement was considered very satisfactory, as it not only met the immediate difficulties, but strengthened the machinery for preventing such stoppages in the future. The amendment of the joint rules is looked upon as especially promising in this respect. The amendments adopted are rather detailed, but their effect is thus summarized:

When a deadlock is reached a small subcommittee of the two sides will sit with an independent standing chairman and two independent standing members (one chosen by each side) to make a fresh effort at settlement. If they fail, the independent members will make a recommendation, which will at least have moral authority and serve to influence public opinion. Only if the two sides wish will the chairman act as arbitrator. The plan, therefore, does not provide

for compulsory arbitration—few British industries have gone as far as that—but it does insure that there shall be no final break without the bringing of fresh minds to bear on the causes of difference. The disputants will be able to have arbitration if they wish it; in any case, they will be offered an independent solution.

Effect of Wages Agreement

As THE mills reopened, the employers' association issued a circular to its members setting out the effect which the wage agreement would have on the wages of different workers. Referring to the compromise reached, the circular continues:

The reduction shall be 15½ per cent on the standard piece price list rates of wages, which in the case of operatives who are at present paid 82½ per cent on standard list will reduce the aggregate percentage additions on such list from 82½ per cent to 67 per cent and mean a reduction of 8.493 per cent on their current wages, and a similar reduction of 15½ per cent from other lists which vary from 82½ per cent and an equivalent reduction in the wages of all operatives who are not paid by the piece price lists.

The effect of such agreement is shown in the following table:

Percentage addition to piece price lists before and after dispute

Where the basis is the—	Addition prior to dispute	Addition after settlement
Uniform list (grey)	82.5	67.0
Colne colored goods list:		
Colored stripes	85.0	69.5
Colored checks	80.0	64.5
Mule cop winding list	82.5	67.0
Oldham velvet list:		
Weft, 40s and below	97.5	82.0
Above 40s	92.5	77.0
Blackburn twisting list	87.5	72.0
Blackburn drawing list	87.5	72.0
Blackburn tape sizing and slashing	77.5	62.0
Blackburn overlookers extras	82.5	67.0
Burnley beaming list	82.5	67.0
Standard list for weaving fustians	77.5	62.0
Colne warp dressing list	77.5	62.0
Nelson drawing list (grey)	77.5	62.0
Nelson twisting list (grey)	82.5	67.0
All other lists where percentage was	82.5	67.0

The reduction of 15½ per cent on piece price list rates of wages is equivalent to a reduction on current wages of—

Per cent	Per cent on standard
8.732 where the wages were previously	77½
8.493 where the wages were previously	82½
8.378 where the wages were previously	85
8.267 where the wages were previously	87½
8.052 where the wages were previously	92½

In the case of workpeople who are paid base wages or who are not paid by piece price lists, the necessary adjustment consequent upon the reduction of 15½ per cent on list prices can be made by reducing the current weekly wages by the requisite percentage applicable to the circumstances, according to the above table.

The actual wages to be paid are given in a few instances. Thus for adult male cloth inspectors the minimum wage, after reduction, for a week of 48 hours is £2 0s. 11d., and for general warehousemen and all other adult male labor in the warehouse, £1 16s. 11d. For mill engine tenters and men in charge of an engine and boiler combined,

the method of adjusting the wage is illustrated by an example which shows at the same time the complex nature of the wage scales:

	£	s.	d.
Wages prior to 1914, say	1	15	0
Add 10s. to make up to standard		10	0
Standard	2	5	0
Add 8s., balance of advances, August, 1914, to June, 1918		8	0
Add 27 per cent on standard rate, being total advances (less reductions) from June, 1918, to August, 1929		12	2
Total wages for 62½ hours	3	5	2

The above wages are calculated on the old working hours. The proportion for 48 hours in such an instance will be £2 10s. 0½d. Overtime in excess of 48 hours should be paid to these men at time and a quarter and time and a half rates, in accordance with the agreement of January 6, 1920.

The payment for boiler, flue and economiser cleaning will be 22 per cent over August, 1914, rates.

The circular concludes with a recommendation that the cut should be applied to the salaries of all managerial and clerical forces, where these have not been reduced since September, 1929.

LABOR AGREEMENTS, AWARDS AND DECISIONS

Mileage Pay Basis Abolished on Delaware & Hudson Railroad

EXPERIMENTAL agreements were entered into for the period of one year by the conductors, trainmen, engineers, and firemen and the Delaware & Hudson Railroad.

The most distinct departure from the provisions of former agreements is the change in the basis of wage payment. Formerly all of the operating employees were paid on a mileage basis.

By the terms of the new agreements with the four railroad brotherhoods 240 hours constitute a month's work for all regular employees. Employees who are available during the entire month but are not furnished with sufficient work to make up the 240 hours will, notwithstanding, be paid the monthly rate specified in the several agreements. Regular employees who have completed 240 hours' service will be relieved from further service during that month. Not less than eight hours will be credited when employees perform service for which they are called on any day or trip. If for some reason regular employees are required to work more than 240 hours during any calendar month, they will be paid pro rata for the additional hours worked.

For all extra conductors, trainmen, engineers, and firemen 160 hours constitute a month's work. Extra employees who are available during the entire month but are not furnished with sufficient work to make up the 160 hours will be paid the specified monthly rate for 160 hours' service. Extra employees who are required to work more than 160 hours during any calendar month will be paid pro rata for the additional hours worked.

These agreements were entered into by the company and the four railroad brotherhoods with the understanding that upon the expiration of the trial period of one year either party would have the right to petition the other to enter into negotiations for the purpose of revising objectionable features. If these negotiations do not result in a satisfactory agreement, both parties agree to return to the agreement in effect at the time of making the experimental agreement.

Awards and Decisions

Switchmen—Iowa Transfer Railway Co.

THE Iowa Transfer Railway Co. and representatives of the Switchmen's Union of North America agreed, on June 24, 1932, to submit an unsettled dispute to a board of arbitration. The board was composed of J. A. Wagner, representing the company, J. P. Brindley, representing the employees, and A. B. Funk, chairman.

The question submitted to the board related to a change in two articles of the agreement signed February 15, 1923. The company desired that the 48 hours' advance notice of any change in the regular starting time of yard crews, required by article 5 of the agreement, be changed to 12 hours' notice; also that the make-up of a yard crew, established under article 13 as 1 foreman and 2 helpers, be changed to 1 foreman and 1 helper.

The union contended that section 2 of what is known as the "Chicago agreement," signed at a conference held in January, 1932, by representatives of the standard railroad labor organizations and the presidents of various railroads of the United States, was a bar against any change in working contracts during the period of the agreement. The section reads as follows:

> That the participating railroads, without attaching any limitations upon the use of funds derived from the pay-roll deduction herein agreed to, will make an earnest and sympathetic effort to maintain and increase railroad employment.

The union insisted that this provision carried with it the implied pledge to maintain existing labor contracts during the year covered by the agreement. In support of the union's contention witnesses testified that before representatives of the unions became signatory to the agreement they were assured by Daniel Willard, chairman of a committee representing the railways, that during the year of the agreement there should be no change in contracts or working conditions.

In its opinion, the arbitration board pointed out that—

> In the work of this transfer yard there has already been much in the way of retrenchment. Under usual conditions of a few years ago there was in service three full crews of switchmen working full time. This force has been reduced to one crew working full time and a second crew working part time. A 10 per cent reduction in wages has also afforded substantial relief.
>
> On the part of each party to this controversy, but not between themselves, there is a fierce struggle for reasonable existence. * * * On the part of both there is a haunting fear, that when the depression ends and a return to normal conditions is generally experienced, the railway service will by no means find itself fully sharing in the return of usual prosperity. Existing conditions and intelligent expectation make it the part of wisdom on the part of the public to deal justly and even leniently with the railways of the country.
>
> Such appeal and such reaction, however, must not serve to submerge the rights and needs of the men who devote their lives to this important industry as employees. The necessity for retrenchment has turned many of them adrift after many years of preparation for their peculiar service and many more may necessarily join them in the search for new work. In this campaign of economy great care must be exercised in seeing that undue hardship is not visited upon this class of workers by the imposition of heavier work upon those remaining in service and by dismissal not clearly justified in practical railway operation.

On September 7, 1932, the majority of the board rendered a decision reducing the period of notice to 24 hours, but maintaining the composition of the yard crew at one foreman and two helpers.

Typographical Union—San Diego, Calif., Newspapers

THE San Diego Typographical Union No. 221 agreed with the San Diego Sun and the San Diego Union-Tribune, on June 17, 1932, to submit their dispute over the wage scale to arbitration. The parties had agreed, on May 12, 1926, to continue in force until May 31, 1933, the working conditions and other provisions established by the existing agreement and any scale of wages fixed by the arbitration board.

Lyman Bryson, Curtis Hillyer, Walter Ames, Roy H. Norberg, and C. H. Thompson composed the board of arbitration.

The newspapers based their request for a cut of 20 per cent in the weekly wages on (a) the losses resulting from the general depression, (b) the tendency to lower wages in industry, and (c) the reduction in the cost of living.

The union criticized in detail the figures as to conditions in industry and as to living costs but did not attempt to disprove the general purport of the statistics offered. It contended that the system of job sharing now in force among its membership, by means of which the members are relieving unemployment at personal sacrifice, more than compensated for any reduction in the cost of living.

The opinion of the arbitration board pointed out that—

(a) The pressure of business conditions upon the publishers is severe and they are not exceeding justice in asking that the unions share in the necessary sacrifices.

(b) It is of the greatest importance to both publishers and unions to maintain the principle that wages are to be adjusted downward in some degree when times are bad and living costs low, in order that they may be adjusted upward when conditions permit.

(c) The job-sharing system prevailing among the members of the union is wholly admirable from a social and humanitarian point of view, and that it should be taken into account in making the necessary adjustments, but that it does not afford any financial help to the publishers as long as the present wage scale continues.

(d) Technological unemployment, which is the evil of our present machine age, can not be remedied except by reducing the workers' regular hours of labor so that more men in each skilled trade may find work to do.

The unanimous decision of the board was as follows:

(a) For the period of one year from June 1, 1932, to May 31, 1933, the wages paid to members of Typographical Union No. 221 shall be as follows:

Day work, $39.50 per week for a week of 5 days or 37½ hours.

Night work, $41.65 per week for a week of 5 days or 37½ hours.

Lobster shift, $44 per week for a week of 37½ hours.

Foreman, at least 50 cents per shift over the regular scale as herein established.

Machinist operator, at least 50 cents per shift over the regular scale as herein established.

The scale of apprentices shall be estimated at a reduction of 7½ per cent from the scale as set forth in section 22 of the contract of May 1, 1926, on the basis of a 5-day week.

Except as otherwise modified it is understood that the contract of May 1, 1926, shall remain in full force until May 31, 1933.

(b) The publishers and union shall agree that this award constitutes a contract to put a 5-day week into force immediately with the right reserved to the publishers to determine which days in each 7-day week each employee shall be at work by the system of "office control" as ordinarily understood.

LABOR TURNOVER

Labor Turnover in Manufacturing Establishments

THE Bureau of Labor Statistics presents herewith quarterly labor turnover rates for manufacturing as a whole and for 10 separate manufacturing industries for the third quarter of 1932.

The rates here published therefore represent the number of changes per 100 employees that took place during the three months ending September 30. The data for 1931 have been recast to quarterly rates.

The form of average used for compiling turnover rates by the Bureau of Labor Statistics is the weighted arithmetic mean. The index for manufacturing as a whole was compiled from reports to the bureau from representative establishments in approximately 148 census industry classifications. These firms employed over 1,000,000 people. In the 10 industries for which separate indexes are presented, reports were received from representative plants employing at least 25 per cent of the workers in each industry as shown by the Census of Manufactures of 1927.

The net turnover rate shown in the table means the rate of replacement, which is the number of jobs that are vacated and filled per 100 employees. In a plant that is increasing its force, the net turnover rate is the same as the separation rate, because while more people are hired than are separated from their jobs, the number hired above those leaving is due to expansion and can not be justly charged to turnover. On the other hand, in a plant that is reducing its number of employees, the net turnover rate is the same as the accession rate, for while more people are separated from the pay roll than are hired, the excess of separations over accessions is due to a reduction of force and therefore can not be logically charged as turnover expense.

As data for turnover rates are based on reports from a limited number of establishments, these rates should not be confused with the indexes of changes in employment, compiled and published monthly by the Bureau of Labor Statistics, based on reports from a much larger number of establishments.

Table 1 shows for all industries the total separation rate, subdivided into the quit, discharge, and lay-off rate, together with the accession rate and net turnover rate per quarter for 1931 and 1932. The accession rate was much higher during the third quarter of 1932 than during either the second quarter of 1932 or the third quarter of 1931. The quit and discharge rates were lower for the third quarter of 1932 than for either the second quarter of 1932 or the third quarter of 1931. The lay-off rate was lower than during the second quarter of 1932, but slightly higher than during the third quarter of 1931.

TABLE 1.—QUARTERLY TURNOVER RATES IN SELECTED FACTORIES IN 148 INDUSTRIES

Period	Separation rates						Total separation		Accession rate		Net turnover rate	
	Quit		Discharge		Lay off							
	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932	1931	1932
First quarter	2.43	2.28	0.66	0.58	5.45	8.18	8.54	11.04	9.53	9.65	8.54	9.65
Second quarter	3.28	2.15	.81	.49	8.29	12.92	12.38	15.56	8.23	7.80	8.23	7.80
Third quarter	3.32	2.10	.71	.45	10.07	10.78	14.10	13.33	9.27	12.55	9.27	12.55
Fourth quarter	2.37	------	.54	------	10.65	-------	13.56	-------	9.68	-------	9.68	------

Table 2 shows the quit, discharge, lay off, accession, and net turnover rates for automobiles; boots and shoes; brick; cotton; iron and steel; foundry and machine shops; furniture; men's clothing; sawmills; and slaughtering and meat packing; for the third quarter of 1931, and for the second and third quarters of 1932.

The highest quarterly turnover rate in the third quarter of 1932 was 22.27 per 100 employees in brick manufacture. The lowest turnover rate was 3.98 shown by the iron and steel industry.

Sawmills had the highest quit rate, and the lowest quit rate was shown by foundries and machine shops. The highest discharge rate occurred in slaughtering and meat packing and the lowest in iron and steel. The highest lay-off rate was shown by the automobile industry and the lowest by men's clothing. The highest accession rate occurred in cotton manufacture and the lowest in iron and steel.

TABLE 2.—QUARTERLY TURNOVER RATES IN SPECIFIED INDUSTRIES

Class of rates	Third quarter, 1931	Second quarter, 1932	Third quarter, 1932	Third quarter, 1931	Second quarter, 1932	Third quarter, 1932
	Automobiles			Boots and shoes		
Quit	3.08	2.65	1.29	6.75	2.59	3.01
Discharge	.82	.43	.35	1.40	.50	.77
Lay off	24.52	15.77	40.61	6.14	8.81	4.77
Total separation	28.42	18.85	42.25	14.29	11.90	8.55
Accession	12.52	22.02	7.90	13.31	4.41	16.43
Net turnover	12.52	18.85	7.90	13.31	4.41	8.55
	Brick			Cotton manufacturing		
Quit	3.10	0.84	0.93	4.69	2.56	3.46
Discharge	1.17	.55	.39	1.14	.74	.80
Lay off	24.25	32.19	27.44	7.75	22.02	5.62
Total separation	28.52	33.58	28.76	13.58	25.32	9.88
Accession	17.90	24.04	22.27	13.69	5.67	31.05
Net turnover	17.90	24.04	22.27	13.58	5.67	9.88
	Foundries and machine shops			Furniture		
Quit	1.94	0.97	0.75	2.87	1.18	1.11
Discharge	.72	.39	.25	.87	.42	.24
Lay off	11.61	12.32	10.23	9.81	19.38	9.48
Total separation	14.27	13.68	11.23	13.55	20.98	10.83
Accession	7.88	5.79	7.32	16.33	10.86	20.88
Net turnover	7.88	5.79	7.32	13.55	10.86	10.83
	Iron and steel			Men's clothing		
Quit	2.76	1.94	1.22	3.70	3.25	3.14
Discharge	.30	.17	.14	.47	.12	.16
Lay off	6.06	10.94	5.32	3.73	15.28	2.73
Total separation	9.12	13.05	6.68	7.90	18.65	6.03
Accession	4.72	3.15	3.98	8.98	6.54	22.54
Net turnover	4.72	3.15	3.98	7.90	6.54	6.03
	Sawmills			Slaughtering and meat packing		
Quit	4.80	2.27	3.49	3.81	2.77	2.57
Discharge	1.74	.98	.75	1.23	.99	1.11
Lay off	19.55	20.70	15.77	13.78	17.16	14.77
Total separation	26.09	23.95	20.01	18.82	20.92	18.45
Accession	16.31	21.22	17.94	17.14	20.85	20.24
Net turnover	16.31	21.22	17.94	17.14	20.85	18.45

HOUSING

Building Permits in Principal Cities of the United States, September, 1932

ACCORDING to reports received by the Bureau of Labor Statistics of the United States Department of Labor, there was an increase of 3.3 per cent in the number of permits issued for construction of all kinds during September, 1932, as compared with August, 1932. The estimated cost of buildings for which permits were issued decreased 15.2 per cent, comparing these two periods. Indicated expenditures for total building operations in September, 1932, were $31,768,068.

The estimated expenditure for new residential buildings increased 9.9 per cent. The estimated cost of new nonresidential buildings decreased 27.3 per cent, and additions, alterations, and repairs decreased 12.7 per cent in estimated cost comparing September with August, 1932.

The cost figures in the following tables apply to the cost of the building as estimated by the prospective builder on applying for his permit to build. No land costs are included. Only building projects within the corporate limits of the cities enumerated are shown. The States of Illinois, Massachusetts, New Jersey, New York, and Pennsylvania, through their departments of labor, are cooperating with the United States Bureau of Labor Statistics in the collection of these data.

Comparisons, August and September

TABLE 1 shows the estimated cost of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 353 identical cities of the United States, by geographic divisions.

TABLE 1.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 353 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN AUGUST AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings (estimated cost)			New nonresidential buildings (estimated cost)		
	August, 1932	September, 1932	Per cent of change	August, 1932	September, 1932	Per cent of change
New England	$920,103	$922,800	+0.3	$860,328	$2,299,464	+167.3
Middle Atlantic	2,395,568	2,622,960	+9.5	9,443,312	2,807,674	−70.3
East North Central	1,187,026	1,202,758	+1.3	2,183,286	3,641,279	+66.8
West North Central	872,064	782,971	−10.2	802,398	1,752,532	+118.4
South Atlantic	1,035,010	845,750	−18.3	2,908,057	1,502,381	−48.3
South Central	444,957	627,379	+41.0	1,734,213	914,330	−47.3
Mountain and Pacific	1,445,945	2,120,433	+46.6	1,301,745	1,059,565	−18.6
Total	8,300,673	9,125,051	+9.9	19,233,339	13,977,225	−27.3

TABLE 1.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 353 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN AUGUST AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS—Continued

Geographic division	Additions, alterations, and repairs (estimated cost)			Total construction (estimated cost)			Number of cities
	August, 1932	September, 1932	Per cent of change	August, 1932	September, 1932	Per cent of change	
New England	$1,106,727	$823,880	−25.6	$2,887,158	$4,046,144	+40.1	54
Middle Atlantic	3,627,140	2,910,244	−19.8	15,466,020	8,340,878	−46.1	72
East North Central	1,429,435	1,549,069	+8.4	4,799,747	6,393,106	+33.2	93
West North Central	451,298	558,539	+23.8	2,125,760	3,094,042	+45.5	25
South Atlantic	1,285,375	1,081,716	−15.8	5,228,442	3,429,847	−34.4	39
South Central	852,015	533,811	−37.3	3,031,185	2,075,520	−31.5	33
Mountain and Pacific	1,173,234	1,208,533	+3.0	3,920,924	4,388,531	+11.9	37
Total	9,925,224	8,665,792	−12.7	37,459,236	31,768,068	−15.2	353

Indicated expenditures for new residential buildings increased in 5 of the 7 geographic divisions. Indicated expenditures for new nonresidential buildings increased in 3 of the 7 geographic divisions. The largest decrease in this class of structure occurred in the Middle Atlantic States, where, during August, contracts were issued for several large post-office buildings by the Supervising Architect of the Treasury Department. Although there was a decrease in the indicated expenditures for total construction, 4 of the geographic divisions registered increases.

Table 2 shows the number of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 353 identical cities of the United States, by geographic divisions.

TABLE 2.—NUMBER OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 353 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN AUGUST AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings		New nonresidential buildings		Additions, alterations, and repairs		Total construction	
	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932
New England	198	185	594	626	2,215	2,229	3,007	3,040
Middle Atlantic	440	491	1,270	1,514	4,640	4,626	6,350	6,631
East North Central	280	274	1,495	1,490	2,862	2,767	4,637	4,531
West North Central	246	236	807	819	1,121	1,124	2,174	2,179
South Atlantic	263	213	565	494	2,607	2,684	3,435	3,391
South Central	226	260	423	449	1,683	1,804	2,332	2,513
Mountain and Pacific	456	582	1,080	1,245	3,445	3,686	4,981	5,513
Total	2,109	2,241	6,234	6,637	18,573	18,920	26,916	27,798
Per cent of change		+6.3		+6.5		+1.9		+3.3

Increases were shown in the number of new residential buildings of new nonresidential buildings, of additions, alterations, and repairs, and in the total number of buildings for which permits were issued comparing August with September, 1932.

Table 3 shows the number of families provided for in the different kinds of housekeeping dwellings, together with the estimated cost of such dwellings for which permits were issued in 353 identical cities during August and September, 1932, by geographic divisions.

TABLE 3.—ESTIMATED COST AND NUMBER OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF HOUSEKEEPING DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 353 IDENTICAL CITIES IN AUGUST AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	1-family dwellings				2-family dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932
New England	$834,603	$808,300	186	170	$77,500	$98,500	22	25
Middle Atlantic	1,617,216	1,828,665	369	401	433,352	579,495	132	159
East North Central	1,077,826	1,089,558	266	260	109,200	57,300	25	18
West North Central	820,564	779,471	238	235	44,000	3,500	13	2
South Atlantic	980,410	772,450	254	202	10,100	3,800	6	7
South Central	405,832	538,864	213	245	30,125	44,950	23	23
Mountain and Pacific	1,210,315	1,756,943	410	534	171,930	163,790	73	61
Total	6,946,766	7,574,251	1,936	2,047	876,207	951,335	294	295
Per cent of change		+9.0		+5.8		+8.6		+0.3

Geographic division	Multifamily dwellings				Total, all kinds of housekeeping dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932	August, 1932	September, 1932
New England	$8,000	$16,000	4	8	$920,103	$922,800	212	203
Middle Atlantic	20,000	214,800	8	74	2,070,568	2,622,960	509	634
East North Central	0	52,000	0	17	1,187,026	1,198,858	291	295
West North Central	7,500	0	4	0	872,064	782,971	255	237
South Atlantic	44,500	69,500	20	29	1,035,010	845,750	280	238
South Central	9,000	43,565	8	20	444,957	627,379	244	288
Mountain and Pacific	63,700	157,700	34	89	1,445,945	2,078,433	517	684
Total	152,700	553,565	78	237	7,975,673	9,079,151	2,308	2,579
Per cent of change		+262.5		+203.8		+13.8		+11.7

There was an increase in the indicated expenditures for all classes of housekeeping dwellings and in the number of families provided for in each class of dwelling house, comparing September with August. The total number of family-dwelling units provided increased 11.7 per cent in September as compared with August.

Table 4 shows the index number of families provided for, the index numbers of indicated expenditures for new residential buildings, for new nonresidential buildings, for additions, alterations, and repairs, and for total building operations.

TABLE 4.—INDEX NUMBERS OF FAMILIES PROVIDED FOR AND OF THE ESTIMATED COST OF BUILDING OPERATIONS AS SHOWN BY PERMITS ISSUED IN PRINCIPAL CITIES OF THE UNITED STATES

[Monthly average, 1929=100]

Month	Families provided for	Estimated cost of—			
		New residential buildings	New nonresidential buildings	Additions, alterations, and repairs	Total building operations
1929					
September	70.2	63.7	81.3	95.0	73.7
1930					
September	51.3	44.4	73.8	64.2	58.2
1931					
September	30.1	24.8	41.8	41.0	33.5
1932					
January	14.4	10.2	25.0	25.8	18.2
February	13.0	9.1	16.5	26.7	14.3
March	15.4	10.7	18.1	27.0	15.7
April	13.4	9.7	25.0	32.0	18.8
May	11.3	7.9	39.3	27.3	23.3
June	10.6	7.9	24.6	28.2	17.3
July	8.2	5.6	16.1	22.6	12.0
August	9.7	6.8	15.7	24.9	12.6
September	10.8	7.5	11.4	21.7	10.7

There was an increase in the index number of families provided for and in the index number of new residential buildings comparing September with August. The index numbers for new nonresidential buildings, for additions, alterations, and repairs, and for total building operations, however, showed a decrease. The index number of families provided for was higher than for any month since May, 1932. The index number of new residential buildings was higher than for either July or August, 1932.

Comparisons of Indicated Expenditures for Public Buildings

TABLE 5 shows the value of contracts awarded for public buildings by the different agencies of the United States Government and by the various State governments during the months of September, 1931, and August and September, 1932, by geographic divisions.

TABLE 5.—VALUE OF CONTRACTS FOR PUBLIC BUILDINGS LET BY THE UNITED STATES GOVERNMENT AND BY STATE GOVERNMENTS, SEPTEMBER, 1931, AND AUGUST AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	Federal			State		
	September, 1931	August, 1932	September, 1932[1]	September, 1931	August, 1932	September, 1932[1]
New England	$1,497,791	$590,128	$605,735	$1,054,779	$164,421	$51,341
Middle Atlantic	1,675,811	6,214,288	829,842	5,135,800	2,249,526	1,656,398
East North Central	802,896	1,177,466	2,396,660	690,362	680,171	425,471
West North Central	334,004	785,456	163,349	555,525	2,136,267	86,050
South Atlantic	4,108,816	1,454,722	349,396	328,583	425,844	690,317
South Central	2,023,689	953,943	322,974	682,024	2,656,255	533,421
Mountain and Pacific	909,391	773,006	829,166	620,879	598,900	224,433
Total	11,352,398	11,949,009	5,497,122	9,067,952	8,911,384	3,667,431

[1] Subject to revision.

Contracts awarded for Federal buildings during September, 1932, totaled $5,497,122. This is less than half of the value of contracts awarded by Federal agencies during either September, 1931, or August, 1932.

The value of contracts awarded for State buildings during September, 1932, was $3,667,431.

Whenever a contract is let by either the Federal or a State government in a city having a population of 25,000 or over, the number or cost of such building is included in the tables shown herein.

Comparisons, September, 1932, with September, 1931

TABLE 6 shows the estimated cost of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 343 identical cities of the United States having a population of 25,000 or over, for the months of September, 1931, and September, 1932, by geographic divisions.

TABLE 6.—ESTIMATED COST OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 343 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN SEPTEMBER, 1931, AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings (estimated cost)			New nonresidential buildings (estimated cost)		
	September, 1931	September, 1932	Per cent of change	September, 1931	September, 1932	Per cent of change
New England	$2,991,865	$820,150	−72.6	$15,309,998	$2,282,309	−85.1
Middle Atlantic	12,996,523	2,608,460	−79.9	10,494,827	2,786,134	−73.5
East North Central	3,686,258	1,202,758	−67.4	7,291,259	3,640,404	−50.1
West North Central	1,818,640	782,971	−56.9	2,899,289	1,752,532	−39.6
South Atlantic	2,788,570	842,750	−69.8	6,266,483	1,500,881	−76.0
South Central	2,088,546	627,379	−70.0	3,046,098	910,880	−70.1
Mountain and Pacific	4,811,950	2,102,858	−56.3	2,480,162	1,052,565	−57.6
Total	31,182,352	8,987,326	−71.2	47,788,116	13,925,705	−70.9

Geographic division	Additions, alterations, and repairs (estimated cost)			Total construction (estimated cost)			Number of cities
	September, 1931	September, 1932	Per cent of change	September, 1931	September, 1932	Per cent of change	
New England	$1,380,630	$808,297	−41.5	$19,682,493	$3,910,756	−80.1	51
Middle Atlantic	4,624,665	2,901,275	−37.3	28,116,015	8,295,869	−70.5	70
East North Central	2,898,555	1,546,729	−46.6	13,876,072	6,389,891	−54.0	92
West North Central	1,078,753	558,539	−48.2	5,796,682	3,094,042	−46.6	25
South Atlantic	1,428,280	1,075,791	−24.7	10,483,333	3,419,422	−67.4	38
South Central	878,997	533,811	−39.3	6,013,641	2,072,070	−65.5	32
Mountain and Pacific	1,988,823	1,196,569	−39.8	9,280,935	4,351,992	−53.1	35
Total	14,278,703	8,621,011	−39.6	93,249,171	31,534,042	−66.2	343

There was a decrease in indicated expenditures for new residential buildings, for new nonresidential buildings, for additions, alterations, and repairs, and for total building operations in each geographic division, comparing September, 1932, with September, 1931.

Table 7 shows the number of new residential buildings, of new nonresidential buildings, of additions, alterations, and repairs, and of total building operations in 343 cities having a population of 25,000

or over for September, 1932, and September, 1931, by geographic divisions.

TABLE 7.—NUMBER OF NEW BUILDINGS, OF ADDITIONS, ALTERATIONS, AND REPAIRS, AND OF TOTAL BUILDING CONSTRUCTION IN 343 IDENTICAL CITIES, AS SHOWN BY PERMITS ISSUED IN SEPTEMBER, 1931, AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	New residential buildings		New nonresidential buildings		Additions, alterations, and repairs		Total construction	
	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932
New England	448	166	1,122	604	2,297	2,184	3,867	2,954
Middle Atlantic	1,419	488	2,387	1,500	4,918	4,590	8,724	6,578
East North Central	660	274	2,640	1,484	4,019	2,758	7,319	4,516
West North Central	433	236	1,165	819	1,398	1,124	2,996	2,179
South Atlantic	438	212	882	492	2,944	2,675	4,264	3,379
South Central	569	260	645	447	2,004	1,804	3,218	2,511
Mountain and Pacific	1,153	572	1,726	1,231	4,546	3,653	7,425	5,456
Total	5,120	2,208	10,567	6,577	22,126	18,788	37,813	27,573
Per cent of change		−56.9		−37.8		−15.1		−27.1

The number of new residential buildings, new nonresidential buildings, additions, alterations, and repairs, and of total building operations decreased in September, 1932, as compared with September, 1931.

Table 8 shows the number of families provided for in the different kinds of housekeeping dwellings, together with the cost of such dwellings, for which permits were issued in 343 identical cities during September, 1931, and September, 1932, by geographic divisions.

TABLE 8.—ESTIMATED COST AND NUMBER OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF HOUSEKEEPING DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 343 IDENTICAL CITIES IN SEPTEMBER, 1931, AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	1-family dwellings				2-family dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932
New England	$2,146,715	$705,650	379	151	$484,150	$98,500	120	25
Middle Atlantic	6,703,123	1,814,165	1,210	398	1,274,400	579,495	331	159
East North Central	2,911,913	1,089,558	591	260	426,600	57,300	114	18
West North Central	1,556,940	779,471	409	235	90,900	3,500	27	2
South Atlantic	2,144,770	769,450	418	201	73,800	3,800	27	7
South Central	1,854,101	538,864	504	245	178,345	44,950	103	23
Mountain and Pacific	3,647,850	1,740,868	1,021	525	516,550	162,290	179	59
Total	20,965,412	7,438,026	4,532	2,015	3,044,745	949,835	901	293
Per cent of change		−64.5		−55.5		−68.8		−67.5

TABLE 8.—ESTIMATED COST AND NUMBER OF FAMILIES PROVIDED FOR IN THE DIFFERENT KINDS OF HOUSEKEEPING DWELLINGS FOR WHICH PERMITS WERE ISSUED IN 343 IDENTICAL CITIES IN SEPTEMBER, 1931, AND SEPTEMBER, 1932, BY GEOGRAPHIC DIVISIONS—Continued

Geographic division	Multifamily dwellings				Total, all kinds of housekeeping dwellings			
	Estimated cost		Families provided for		Estimated cost		Families provided for	
	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932	September, 1931	September, 1932
New England	$171,000	$16,000	65	8	$2,801,865	$820,150	564	184
Middle Atlantic	4,192,800	214,800	1,114	74	12,170,323	2,608,460	2,655	631
East North Central	122,745	52,000	43	17	3,461,258	1,198,858	748	295
West North Central	170,800	0	56	0	1,818,640	782,971	492	237
South Atlantic	570,000	69,500	159	29	2,788,570	842,750	604	237
South Central	56,100	43,565	34	20	2,088,546	627,379	641	288
Mountain and Pacific	627,550	157,700	303	89	4,791,950	2,060,858	1,503	673
Total	5,910,995	553,565	1,774	237	29,921,152	8,941,426	7,207	2,545
Per cent of change		−90.6		−86.6		−70.1		−64.7

Decreases were shown in both the number of families provided for and in the estimated cost of each class of housekeeping dwellings, comparing September, 1932, permits with permits issued in September, 1931.

Details by Cities

TABLE 9 shows the estimated cost of new residential buildings, of new nonresidential buildings, of total building operations, and of the number of families provided for in new dwellings in each of the 353 cities for which reports were received for September, 1932.

No reports were received from New London, Conn.; Bangor, Me.; Anderson, Ind.; Port Huron, Mich.; Superior, Wis.; University City, Mo.; Pensacola, Fla.; Fort Smith, Ark.; Ashland and Newport, Ky.; Meridian, Miss.; Lynchburg, Va.; Muskogee and Okmulgee, Okla.; Galveston and Port Arthur, Tex.; Butte, Mont.; and Everett, Wash.

Permits were issued for the following important building projects during the month of September, 1932: In Boston, Mass., for a public-school building to cost $865,000; in Bay City, Mich., for a public building to cost $500,000; in Ottumwa, Iowa, for a filtering plant at the municipal water works to cost $200,000; in Duluth, Minn., for an office building to cost $574,000; in Minneapolis, Minn., for a school building to cost over $300,000; in Washington, D. C., for a community house to cost $250,000; in Baltimore, Md., for two school buildings to cost $630,000; and in Vallejo, Calif., for a school building to cost over $200,000.

Contracts were awarded by the Supervising Architect of the United States Treasury Department for a post office in Manchester, N. H., to cost nearly $250,000, and for a post office in Cincinnati, Ohio, to cost more than $1,700,000.

TABLE 9.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, SEPTEMBER, 1932

New England States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Connecticut:				
Bridgeport	$56,500	$4,225	$68,199	19
Bristol	11,500	4,445	20,721	3
Greenwich	83,500	1,850	100,300	6
Hartford	5,700	9,300	52,109	2
Meriden	20,500	12,100	40,370	2
New Britain	0	1,225	10,497	0
New Haven	22,900	69,100	104,500	4
Norwalk	22,000	2,230	29,400	5
Stamford	0	4,900	15,950	0
Torrington	3,000	6,200	10,250	3
Waterbury	12,000	15,350	43,050	4
West Hartford	19,750	3,680	34,888	3
Maine:				
Lewiston	15,000	11,000	26,000	2
Portland	13,700	5,905	39,035	6
Massachusetts:				
Arlington	68,400	2,525	74,420	13
Beverly	14,000	21,455	40,750	3
Boston [1]	116,750	1,071,030	1,440,458	26
Brockton	9,000	183,530	197,067	3
Brookline	58,000	8,700	71,315	7
Cambridge	0	2,025	14,235	0
Chelsea	0	1,875	11,495	0
Chicopee	0	1,300	3,875	0
Everett	0	10,690	14,940	0
Fall River	2,000	4,027	8,837	1
Fitchburg	9,000	18,110	30,260	2
Haverhill	6,000	1,050	9,230	3
Holyoke	3,500	1,900	14,250	1
Lawrence	0	2,300	9,975	0
Lowell	0	2,395	16,695	0
Mass.—Con.				
Lynn	$9,000	$8,155	$33,578	2
Malden	4,500	2,320	19,040	1
Medford	25,000	4,900	34,875	6
New Bedford	0	2,675	10,000	0
Newton	20,350	30,725	74,680	5
Pittsfield	5,300	6,137	21,662	2
Quincy	18,900	6,135	39,615	4
Revere	0	2,450	7,100	0
Salem	20,500	11,150	45,694	4
Somerville	0	5,730	14,025	0
Springfield	4,800	18,175	32,285	2
Taunton	600	1,060	7,168	1
Waltham	11,000	27,150	39,525	3
Watertown	0	2,000	5,555	0
Worcester	43,550	304,465	406,765	10
New Hampshire:				
Concord	6,500	775	18,225	2
Manchester	12,900	241,860	268,537	6
Rhode Island:				
Central Falls	0	0	1,750	0
Cranston	43,700	8,330	54,635	11
East Providence	18,600	49,880	75,790	5
Newport	0	1,050	2,000	0
Pawtucket	8,000	24,950	34,800	2
Providence	82,400	40,920	214,029	16
Woonsocket	0	3,100	5,660	0
Vermont: Burlington	14,500	10,950	26,080	3
Total	922,800	2,299,464	4,046,144	203

Middle Atlantic States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
New Jersey:				
Atlantic City	0	$7,600	$27,432	0
Bayonne	0	1,820	9,373	0
Belleville	$12,500	1,220	14,528	3
Bloomfield	42,000	2,500	49,000	9
Camden	0	28,395	33,577	0
Clifton	39,000	3,450	49,600	9
East Orange	28,800	9,190	51,680	9
Elizabeth	42,000	11,500	53,500	6
Garfield	0	1,225	1,875	0
Hackensack	2,000	20,940	27,977	1
Hoboken	0	26,200	32,848	0
Irvington	10,800	10,450	25,362	2
Jersey City	33,300	56,460	109,160	7
Kearny	8,000	800	9,515	4
Montclair	34,500	3,250	47,171	5
Newark	41,000	40,410	134,993	7
New Brunswick	0	875	7,935	0
Orange	8,500	7,870	22,429	1
Passaic	3,500	45,450	66,685	1
Paterson	13,300	52,235	96,333	4
Perth Amboy	4,300	850	8,075	1
Plainfield	8,500	3,560	21,395	1
Trenton	6,500	2,750	36,340	2
Union City	0	0	16,435	0
West New York	5,000	0	12,600	1
West Orange	12,500	600	17,032	2
New York:				
Albany	62,400	50,405	149,780	7
Amsterdam	9,100	2,770	11,870	4
Auburn	4,200	4,785	13,095	1
New York—Con.				
Binghamton	$26,800	$8,946	$70,014	7
Buffalo	25,055	76,877	151,201	12
Elmira	0	7,915	12,469	0
Jamestown	5,500	2,225	12,520	2
Kingston	0	14,860	38,540	0
Lockport	0	61,000	61,000	0
Mount Vernon	52,500	4,600	59,620	6
Newburgh	19,000	7,200	31,300	3
New Rochelle	46,000	1,825	81,673	2
New York City—				
The Bronx [1]	205,800	27,500	434,457	46
Brooklyn [1]	545,650	365,185	1,641,279	132
Manhattan [1]	0	140,510	777,494	0
Queens [1]	448,450	177,096	831,866	134
Richmond [1]	41,780	74,664	173,974	19
Niagara Falls	29,050	3,896	56,963	8
Poughkeepsie	49,000	2,400	100,550	8
Rochester	28,095	90,121	171,611	6
Schenectady	18,000	2,195	38,769	6
Syracuse	15,300	14,488	35,988	3
Troy	24,350	4,990	39,665	5
Utica	19,000	26,500	61,300	3
Watertown	4,500	26,450	40,110	1
White Plains	32,200	7,862	43,397	5
Yonkers	102,450	21,865	152,259	16
Pennsylvania:				
Allentown	8,000	15,700	28,395	1
Altoona	2,300	23,294	29,021	3
Bethlehem	35,500	24,000	61,700	4

[1] Applications filed.

TABLE 9.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, SEPTEMBER, 1932—Continued

Middle Atlantic States—Continued

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for	City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Pennsylvania—Continued.					Pennsylvania—Continued.				
Butler	0	$210	$6,213	0	Norristown	0	$2,590	$6,213	0
Chester	0	640	4,245	0	Philadelphia	$184,100	975,445	1,306,726	49
Easton	0	2,412	9,020		Pittsburgh	107,000	26,105	177,424	35
Erie	$15,475	7,127	31,512	5	Reading	0	30,000	50,229	0
Harrisburg	0	2,890	19,640	0	Scranton	40,300	8,965	106,929	10
Hazleton	955	21,229	25,424	1	Wilkes-Barre	2,900	16,150	32,534	1
Johnstown	3,250	13,000	17,900	1	Wilkinsburg	0	835	3,853	0
Lancaster	0	11,400	13,200	0	Williamsport	12,400	5,662	32,899	3
McKeesport	4,200	22,805	31,370	1	York	10,000	4,360	18,967	2
Nanticoke	8,400	22,300	31,140	3					
New Castle	18,000	1,825	20,710	4	Total	2,622,960	2,807,674	8,340,878	634

East North Central States

Illinois:					Michigan—Con.				
Alton	$8,200	$742	$12,867	2	Jackson	0	$715	$5,645	0
Aurora	5,000	1,103	9,582	1	Kalamazoo	$3,000	3,420	10,294	1
Belleville	0	16,130	16,255	0	Lansing	2,000	1,340	9,495	1
Berwyn	21,000	14,100	38,550	3	Muskegon	800	2,010	5,905	1
Bloomington	0	1,000	8,000	0	Pontiac	4,500	690	8,225	1
Chicago	101,150	90,995	423,309	22	Royal Oak	0	875	3,215	0
Cicero	0	4,050	4,550	0	Saginaw	4,900	6,780	16,584	2
Danville	2,700	7,813	11,758	1	Wyandotte	5,600	1,360	8,060	2
Decatur	0	6,752	14,762	0	Ohio:				
East St. Louis	20,950	5,325	32,250	10	Akron	27,875	15,903	55,503	9
Elgin	2,500	5,200	14,718	1	Ashtabula	0	300	1,308	0
Evanston	10,000	5,750	55,750	1	Canton	2,500	8,330	19,000	1
Granite City	0	0	0	0	Cincinnati	127,800	2,100,195	2,297,000	25
Joliet	6,000	400	14,800	2	Cleveland	129,500	33,725	512,750	23
Maywood	0	0	1,015	0	Cleveland Heights	22,000	1,250	31,100	4
Moline	4,000	5,915	19,995	1	Columbus	69,700	28,050	140,300	7
Oak Park	20,500	2,075	29,410	2	Dayton	28,500	47,928	95,317	4
Peoria	38,900	2,900	85,847	11	East Cleveland	0	820	1,864	0
Quincy	4,100	1,470	40,951	2	Elyria	5,900	1,300	11,000	2
Rockford	6,000	2,550	12,115	2	Hamilton	3,000	26,425	33,195	1
Rock Island	0	1,675	9,091	0	Lakewood	45,000	4,760	51,710	14
Springfield	16,500	12,325	46,166	5	Lima	0	220	4,995	0
Waukegan	0	2,000	4,500	0	Lorain	0	465	5,082	0
Indiana:					Mansfield	3,500	1,952	7,395	1
East Chicago	0	1,325	1,825	0	Marion	0	165	465	0
Elkhart	6,000	1,075	9,163	1	Massillon	0	360	3,430	0
Evansville	5,850	7,124	20,312	3	Middleton	0	2,300	5,185	0
Fort Wayne	11,000	39,785	65,392	1	Newark	2,765	985	3,950	2
Gary	0	245	2,395	0	Norwood	0	1,715	20,820	0
Hammond	10,000	3,880	17,555	4	Portsmouth	750	774	2,434	1
Indianapolis	38,460	23,713	151,533	12	Springfield	4,200	700	7,185	3
Kokomo	0	885	1,965	0	Steubenville	1,000	975	3,950	1
Lafayette	5,600	3,500	15,500	2	Toledo	19,100	9,247	43,141	5
Marion	3,500	505	6,330	1	Warren	0	625	3,645	0
Michigan City	0	2,415	2,565	0	Youngstown	25,808	5,580	39,313	6
Mishawaka	0	960	1,520	0	Wisconsin:				
Muncie	3,000	1,451	8,388	3	Appleton	16,200	2,225	24,525	5
Richmond	2,000	250	5,550	1	Eau Claire	25,000	2,250	31,200	12
South Bend	11,200	3,335	22,510	3	Fond du Lac	0	4,060	5,210	0
Terre Haute	0	2,060	10,700	0	Green Bay	12,000	6,485	40,809	6
Michigan:					Kenosha	0	7,250	12,805	0
Ann Arbor	15,000	790	29,513	1	Madison	9,800	765	17,510	2
Battle Creek	0	4,175	7,500	0	Milwaukee	36,800	148,053	260,343	8
Bay City	4,000	501,855	515,653	2	Oshkosh	3,800	695	9,285	2
Dearborn	8,500	3,070	19,370	2	Racine	4,000	1,125	8,300	1
Detroit	145,800	184,425	441,872	34	Sheboygan	4,500	154,947	170,304	1
Flint	6,750	7,232	20,647	3	West Allis	6,800	460	9,190	2
Grand Rapids	0	15,425	45,940	0					
Hamtramck	0	150	2,695	0	Total	1,202,758	3,641,279	6,393,106	295
Highland Park	0	825	2,640	0					

TABLE 9.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, SEPTEMBER, 1932—Continued

West North Central States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Iowa:				
Burlington	0	$1,260	$1,560	0
Cedar Rapids	$5,275	3,815	21,832	5
Council Bluffs	780	94,045	97,002	1
Davenport	17,000	4,970	34,006	5
Des Moines	37,430	24,504	72,504	10
Dubuque	17,509	775	22,209	4
Ottumwa	8,000	203,300	216,450	3
Sioux City	8,575	14,425	29,300	6
Waterloo	5,000	3,675	12,240	1
Kansas:				
Hutchinson	0	2,075	3,091	0
Kansas City	9,600	11,735	22,460	9
Topeka	2,000	3,620	7,555	1
Wichita	6,500	7,615	30,979	2
Minnesota:				
Duluth	17,500	638,150	683,565	7
Minneapolis	117,305	347,285	575,515	36
St. Paul	155,832	87,732	293,996	33
Missouri:				
Joplin	$500	$980	$4,980	1
Kansas City	34,000	131,500	296,900	11
Springfield	11,350	7,290	30,780	8
St. Joseph	4,000	1,450	11,150	2
St. Louis	179,900	57,038	347,164	47
Nebraska:				
Lincoln	10,200	4,320	26,766	7
Omaha	85,000	97,475	195,200	20
North Dakota, Fargo	15,400	2,998	18,963	5
South Dakota, Sioux Falls	34,315	500	37,875	13
Total	782,971	1,752,532	3,094,042	237

South Atlantic States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Delaware, Wilmington	$12,800	$1,550	$35,689	3
District of Columbia, Washington	459,300	457,289	1,125,763	95
Florida:				
Jacksonville	28,000	13,810	82,450	11
Miami	6,900	19,535	54,819	6
Orlando	3,000	2,345	14,795	1
St. Petersburg	500	16,700	26,800	1
Tampa	0	20,040	36,629	0
West Palm Beach	3,000	1,500	10,425	1
Georgia:				
Atlanta	42,600	16,175	96,999	19
Augusta	0	0	5,966	0
Columbus	0	175	2,175	0
Macon	0	0	14,292	0
Savannah	9,200	520	14,370	4
Maryland:				
Baltimore	101,000	785,000	1,379,167	20
Cumberland	0	1,959	3,459	0
Hagerstown	0	2,580	3,680	0
North Carolina:				
Asheville	0	395	9,660	0
Charlotte	27,300	2,952	39,231	6
Durham	6,900	0	8,445	3
Greensboro	24,000	10,085	48,983	6
North Carolina—Contd.				
High Point	$6,300	$950	$13,250	2
Raleigh	5,900	210	10,610	4
Wilmington	3,800	1,700	13,050	2
Winston-Salem	1,300	345	11,300	3
South Carolina:				
Charleston	2,700	400	8,475	2
Columbia	7,800	618	13,081	8
Greenville	8,800	2,075	14,100	4
Spartanburg	4,000	0	5,731	1
Virginia:				
Newport News	3,800	107,693	119,247	1
Norfolk	35,600	12,545	77,622	14
Petersburg	0	200	1,675	0
Portsmouth	3,400	300	11,680	2
Richmond	13,100	11,875	49,919	5
Roanoke	7,500	1,260	11,394	2
West Virginia:				
Charleston	6,550	2,125	19,646	3
Clarksburg	1,450	970	6,015	3
Huntington	5,750	1,905	10,455	4
Parkersburg	0	500	2,965	0
Wheeling	3,500	4,100	15,835	2
Total	845,750	1,502,381	3,429,847	238

South Central States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Alabama:				
Birmingham	$12,000	$2,800	$52,860	1
Mobile	11,100	21,080	38,576	11
Montgomery	4,000	5,400	22,825	3
Arkansas, Little Rock	5,850	1,000	15,050	4
Kentucky:				
Covington	0	875	15,750	0
Lexington	8,000	69,414	96,931	2
Louisville	25,500	48,905	91,305	4
Paducah	800	0	800	1
Louisiana:				
Baton Rouge	10,565	0	19,892	5
Monroe	16,750	3,100	20,400	6
New Orleans	69,783	143,567	269,390	30
Shreveport	8,570	395	31,798	8
Mississippi, Jackson	$7,102	0	$15,259	7
Oklahoma:				
Enid	0	0	3,885	0
Oklahoma City	58,500	$110,425	131,685	4
Tulsa	15,250	7,125	34,191	2
Tennessee:				
Chattanooga	0	27,000	53,255	0
Johnson City	2,500	500	3,000	3
Knoxville	17,100	26,789	53,728	10
Memphis	14,950	173,118	249,428	8
Nashville	16,900	48,335	94,979	16
Texas:				
Amarillo	16,300	2,085	20,032	2
Austin	52,176	37,702	108,103	24

TABLE 9.—ESTIMATED COST OF BUILDINGS FOR WHICH PERMITS WERE ISSUED IN PRINCIPAL CITIES, SEPTEMBER, 1932—Continued

South Central States—Continued

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Texas—Con.				
Beaumont	$1,650	$380	$14,560	3
Brownsville	0	3,450	3,450	0
Dallas	68,218	67,750	181,528	32
El Paso	20,880	1,950	32,395	6
Fort Worth	22,450	27,319	84,328	17
Houston	93,450	60,555	158,205	39
San Angelo	$5,875	0	$5,875	3
San Antonio	25,600	$17,365	62,054	25
Waco	10,000	3,440	25,680	8
Wichita Falls	5,500	2,500	14,323	4
Total	627,379	914,330	2,075,520	288

Mountain and Pacific States

City and State	New residential buildings	New nonresidential buildings	Total (including repairs)	Families provided for
Arizona:				
Phoenix	$11,089	$1,350	$16,189	3
Tucson	10,600	1,535	33,925	4
California:				
Alameda	10,500	770	20,264	3
Alhambra	24,200	500	29,025	8
Bakersfield	0	3,265	13,470	0
Berkeley	47,500	20,240	147,400	6
Fresno	2,400	2,930	24,350	1
Glendale	59,550	6,950	72,015	17
Huntington Park	5,875	1,000	9,650	6
Long Beach	31,100	26,695	102,125	15
Los Angeles	844,020	200,744	1,373,037	287
Oakland	113,990	23,408	179,658	29
Pasadena	37,645	25,309	96,865	7
Riverside	11,600	5,020	24,702	3
Sacramento	15,800	1,868	56,425	4
San Bernardino	5,500	2,000	11,605	3
San Diego	108,900	9,225	184,899	27
San Francisco	302,460	153,370	593,013	89
San Jose	29,715	15,940	63,095	10
Santa Ana	11,000	0	14,873	2
Santa Barbara	11,700	6,000	26,889	5
California—Con.				
Santa Monica	$22,900	$4,050	$31,731	8
Stockton	8,850	94,570	117,115	4
Vallejo	32,250	209,823	248,318	9
Colorado:				
Colorado Springs	7,100	11,825	62,860	4
Denver	123,000	92,490	261,475	23
Pueblo	1,000	6,610	10,911	1
Montana, Great Falls	7,200	1,410	12,535	4
New Mexico, Albuquerque	20,400	2,740	33,502	9
Oregon:				
Portland	65,900	23,440	141,880	21
Salem	5,294	20,003	31,725	2
Utah:				
Ogden	4,500	125	11,900	2
Salt Lake City	25,000	23,485	53,816	5
Washington:				
Bellingham	3,850	2,900	10,845	5
Seattle	75,995	32,240	172,707	49
Spokane	15,050	23,300	46,352	6
Tacoma	7,000	2,435	47,385	3
Total	2,120,433	1,059,565	4,388,531	684

Hawaii

City	New residential buildings	New non-residential buildings	Total (including repairs)	Families provided for
Honolulu	$66,038	$22,446	$107,785	5.5

WAGES AND HOURS OF LABOR

Hours and Earnings in the Hosiery and Underwear Industries, 1930 and 1932

THIS article presents briefly the results of a study of wages and hours of labor of wage earners in the hosiery and underwear industries in the United States, made by the Bureau of Labor Statistics in 1932, and also comparative figures for certain specified years from 1910 to 1932 in which studies have been made by the bureau. Summaries for the last two years studied show that full-time hours per week for the wage earners covered in 1932 averaged 51.6, or only 0.1 of an hour per week less than in 1930; average earnings per hour averaged 35.5 cents in 1932, or 10 cents per hour less than in 1930; and average full-time earnings per week averaged $18.32 in 1932, or $5.20 less than in 1930. The 1932 data in more detail will be published later in bulletin form.

The 1932 data used in the compilation of this preliminary report were taken for a pay period in the early months of 1932 by agents of the bureau directly from the pay rolls and other records of 123 representative hosiery mills in 18 States for 33,227 wage earners, and of 76 underwear mills in 16 States for 11,738 wage earners, or a total of 44,965 in the two industries.

Trend of Hours and Earnings, 1910 to 1932

TABLE 1 shows average full-time hours per week, earnings per hour, and full-time earnings per week for each year from 1910 to 1914 and also for 1919, for wage earners in selected occupations only, and for wage earners in all occupations in the two industries combined for 1914 and for each even year from 1922 to 1932. Index numbers of these averages with the 1913 average taken as the base, or 100 per cent, are also shown in the table.

The averages for 1922 to 1932 for all occupations are comparable, one year with another, but are not comparable with the averages for wage earners in selected occupations for the years 1910 to 1914 and 1919, because the latter include only a specified number of occupations, while the former include all occupations in the industries.

The index numbers furnish comparable figures for the industries, one specified year with another, from 1910 to 1932. The index for each of the years from 1910 to 1914 and 1919 for selected occupations is the per cent that the average for the year is of the average for 1913. The indexes for the even years from 1922 to 1932 for all occupations were computed by increasing or decreasing the 1914 index for selected occupations by the per cent that the average for all occupations for each of the even years from 1922 to 1932 is more or less than the average for all occupations for 1914. Example: The average earnings

per hour for 1932 were 35.5 cents, which is 106.4 per cent more than the average of 17.2 cents for 1914 for all occupations. By increasing the 1914 index of 103.5 for selected occupations 106.4 per cent, an index of 213.6 was obtained for 1932.

The trend in hours and earnings as expressed in index numbers shows a decrease in average full-time hours per week from an index of 93.1 in 1930 to 93.0 in 1932, and in average earnings per hour from 273.8 in 1930 to 213.6 in 1932, while the full-time earnings per week fell from an index of 254.2 in 1930 to 198.0 in 1932. The index numbers show that average full-time hours per week were 4.2 per cent more in 1910 and 7 per cent less in 1932 than in 1913, the basic year; that average earnings per hour were 18 per cent less in 1910 and 173.8 per cent more in 1930 than in the basic year, 1913; and that average full-time earnings per week were 14.8 per cent less in 1910 and 154.2 per cent more in 1930 than in the basic year. These are the extremes between the basic year and any other year in the table.

TABLE 1.—AVERAGE HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, WITH INDEX NUMBERS THEREOF, 1910 TO 1932

Year	Number of establishments	Number of wage-earners	Average full-time hours per week	Average earnings per hour	Average full-time earnings per week	Index numbers (1913=100) of—		
						Full-time hours per week	Earnings per hour	Full-time earnings per week
Selected occupations:								
1910	15	13,132	57.6	$0.141	$8.10	104.2	82.0	85.2
1911	62	13,885	57.4	.144	8.28	103.8	83.7	87.1
1912	62	16,249	56.4	.153	8.62	102.0	89.0	90.6
1913	69	18,198	55.3	.172	9.51	100.0	100.0	100.0
1914 [1]	82	19,396	54.6	.178	9.70	98.7	103.5	102.0
1919	51	16,073	52.1	.315	16.44	94.2	183.1	172.9
All occupations:								
1914 [1]	82	29,631	54.8	.172	9.44			
1922	107	32,178	51.0	.354	18.05	91.9	213.0	195.0
1924	143	38,549	50.7	.409	20.74	91.3	246.1	224.1
1926	190	45,594	51.3	.443	22.73	92.4	266.6	245.6
1928	192	43,501	51.3	.444	22.78	92.4	267.2	246.1
1930	196	48,980	51.7	.455	23.52	93.1	273.8	254.2
1932	199	44,965	51.6	.355	18.32	93.0	213.6	198.0

[1] Two sets of averages are shown for 1914—one for selected occupations and the other for all occupations in the industry. The 1910 to 1914 averages for selected occupations are comparable one year with another, as are those for all occupations one year with another from 1914 to 1932.

Hours and Earnings in Each Industry, 1930 and 1932, by Occupation and Sex

TABLE 2 shows, for 1930 and 1932, the average number of days on which wage earners worked in one week, average full-time and actual hours and earnings in one week, average earnings per hour, and the per cent of full time worked in one week for the wage earners in each of the important occupations in hosiery and in underwear and for a group in each industry designated in the table as "other employees." The latter group includes a number of occupations, each too few in number of wage earners to warrant occupational tabulation.

Hosiery industry.—The number of days worked in one week by males ranged, by occupations, in 1930 from an average of 4.6 for transfer knitters to 5.5 for machine fixers and in 1932 from 4.3 for transfer knitters to 5.3 for machine fixers and "other employees."

Days worked by females ranged in 1930 from 4.4 for mock seamers to 5.2 for automatic knitters, and pairers or maters, and in 1932 from 4.1 for automatic knitters to 5.3 for folders. In computing these averages, each full day or part of a day that a wage earner worked was counted as a day.

Full-time hours per week of males ranged in 1930 from an average of 50.6 for knitters, leggers of full-fashioned hose, to 55.5 for automatic knitters, and in 1932 from 50.6 for knitters, footers of full-fashioned hose, to 54.6 for automatic knitters. Those for females ranged in 1930 from 49.9 for boarders to 53.8 for mock seamers, and in 1932 from 49.7 for boarders to 53.8 for mock seamers.

Hours actually worked in one week by males ranged in 1930 from 40.2 for boarders to 50.6 for machine fixers, and in 1932 from 38.8 for boarders to 49.2 for machine fixers. Those worked by females ranged in 1930 from 34.5 for mock seamers to 46.2 for automatic knitters, and in 1932 from 33.1 for boarders to 42.9 for menders.

The per cent of full time worked by males ranged in 1930 from 74.9 for boarders to 94.4 for machine fixers, and in 1932 from 72.8 for boarders to 93.2 for toppers of full-fashioned hose, and that of females ranged in 1930 from 64.1 for mock seamers to 87.5 for automatic knitters, and in 1932 from 66.6 for boarders to 83.6 for menders.

Average earnings per hour of males ranged in 1930 from a low of 26.9 cents for winders to a high of $1.451 for knitters, footers of full-fashioned hose, and in 1932 from 19.6 cents for transfer knitters to 76.3 cents for knitters, footers, of full-fashioned hose. Those of females ranged in 1930 from a low of 27 cents for welters to a high of 54.6 cents for full-fashioned toppers, and in 1932 from 20.5 cents for transfer knitters to 41.6 cents for boarders. Average earnings per hour of males were less in 1932 for all, except in one occupation, and less for the group of "other employees" than in 1930, and of females in all occupations and in the group of "other employees" were less in 1932 than in 1930.

Average full-time earnings per week of males ranged in 1930 from $14.15 for winders to $73.57 for knitters, footers of full-fashioned hose, and in 1932 from $10.58 for transfer knitters to $38.61 for knitters, footers of full-fashioned hose. Those of females ranged in 1930 from $14.50 for welters to $27.63 for full-fashioned toppers, and in 1932 from $11.01 for transfer knitters to $20.68 for boarders.

Average actual earnings in one week of males ranged in 1930 from $11.65 for winders to $63.44 for knitters, footers of full-fashioned hose, and in 1932 from $8.32 for transfer knitters to $32.32 for machine fixers. Those of females ranged in 1930 from $9.57 for mock seamers to $23.02 for full-fashioned toppers, and in 1932 from $8.31 for mock seamers to $14.79 for full-fashioned toppers.

Underwear industry.—Average earnings per hour of males ranged in 1930 from a low of 42.4 cents for winders and 40 cents for the group of "miscellaneous employees" to 70.4 cents for machine fixers, and in 1932 from 33.2 cents for winders to 62 cents for machine fixers. Those of females ranged in 1930 from 27 cents for inspectors to 45.5 cents for cuff and anklet knitters, and in 1932 from 21.9 to 36.7 cents for the same occupations. Averages for males and females in each occupation were less in 1932 than in 1930.

TABLE 2.—AVERAGE DAYS, HOURS, AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY OCCUPATION AND SEX

Hosiery industry

Occupation	Year	Sex	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
							Average number	Per cent of full time			
Boarders	1930	M.	82	1,619	4.9	53.7	40.2	74.9	$0.488	$26.21	$19.60
	1932	M.	86	1,513	4.9	53.3	38.8	72.8	.380	20.25	14.73
	1930	F.	38	639	4.9	49.9	36.5	73.1	.498	24.85	18.17
	1932	F.	43	726	4.9	49.7	33.1	66.6	.416	20.68	13.76
Folders	1930	F.	82	701	4.9	52.3	40.3	77.1	.356	18.62	14.36
	1932	F.	95	704	5.3	52.0	41.0	78.8	.278	14.46	11.38
Inspectors	1930	F.	116	2,115	5.0	52.8	41.2	78.0	.307	16.21	12.66
	1932	F.	117	1,945	5.0	52.3	40.8	78.0	.257	13.44	10.48
Knitters, full-fashioned:											
Footers	1930	M.	53	1,075	5.1	50.7	43.7	86.2	1.451	73.57	63.44
	1932	M.	63	1,339	5.0	50.6	42.3	83.6	.763	38.61	32.29
Leggers	1930	M.	53	2,795	5.1	50.6	44.7	88.3	1.212	61.33	54.12
	1932	M.	63	3,915	4.9	51.3	44.2	86.2	.638	32.73	28.16
Total	1930	M.	53	3,870	5.1	50.7	44.4	87.6	1.277	64.74	56.71
	1932	M.	63	5,254	4.9	51.1	43.7	85.5	.669	34.19	29.22
Knitters, seamless:											
Automatic	1930	M.	40	519	4.9	55.5	47.5	85.6	.392	21.76	18.63
	1932	M.	35	436	4.6	54.6	44.8	82.1	.306	16.71	13.71
	1930	F.	35	541	5.2	52.8	46.2	87.5	.312	16.47	14.40
	1932	F.	23	266	4.1	51.7	37.0	71.6	.257	13.29	9.51
Rib	1930	M.	38	130	5.2	53.7	48.7	90.7	.399	21.43	19.44
	1932	M.	37	125	4.5	54.5	44.0	80.7	.340	18.53	14.94
	1930	F.	19	49	4.7	52.3	40.6	77.6	.325	17.00	13.22
	1932	F.	15	26	4.7	52.1	41.1	78.9	.235	12.24	9.63
Transfer	1930	M.	17	221	4.6	54.8	44.4	81.0	.292	16.00	12.97
	1932	M.	13	167	4.3	54.0	42.5	78.7	.196	10.58	8.32
	1930	F.	54	2,113	4.5	53.7	40.0	74.5	.273	14.66	10.93
	1932	F.	48	1,488	4.6	53.7	41.4	77.1	.205	11.01	8.48
Total	1930	M.	62	870	4.9	55.0	46.9	85.3	.369	20.30	17.31
	1932	M.	57	728	4.5	54.4	44.1	81.1	.287	15.61	12.69
	1930	F.	70	2,703	4.7	53.5	41.3	77.2	.283	15.14	11.67
	1932	F.	56	1,780	4.5	53.4	40.7	76.2	.213	11.37	8.65
Knitters' helpers, full-fashioned	1930	M.	46	1,692	5.0	51.8	43.3	83.6	.340	17.61	14.70
	1932	M.	51	1,482	4.8	51.9	43.0	82.9	.259	13.44	11.16
Loopers	1930	F.	120	4,086	4.8	53.0	37.6	70.9	.386	20.46	14.49
	1932	F.	116	3,700	4.8	52.6	36.6	69.6	.289	15.20	10.58
Machine fixers	1930	M.	117	968	5.5	53.6	50.6	94.4	.775	41.54	39.25
	1932	M.	112	791	5.3	53.3	49.2	92.3	.656	34.96	32.32
Menders	1930	F.	116	1,663	4.9	51.7	41.0	79.3	.362	18.72	14.84
	1932	F.	120	1,661	5.2	51.3	42.9	83.6	.301	15.44	12.89
Pairers or maters	1930	F.	93	1,438	5.2	52.1	41.4	79.5	.363	18.91	15.02
	1932	F.	102	1,517	5.1	51.7	38.6	74.7	.299	15.46	11.56
Seamers, full-fashioned	1930	F.	55	1,555	5.0	50.2	40.0	79.7	.497	24.95	19.87
	1932	F.	64	1,876	5.1	50.8	40.0	78.7	.347	17.63	13.87
Seamers, mock	1930	F.	34	288	4.4	53.8	34.5	64.1	.277	14.90	9.57
	1932	F.	33	253	4.7	53.8	37.1	69.0	.224	12.05	8.31
Toppers, full-fashioned	1930	M.	8	109	4.7	51.4	42.5	82.7	.484	24.88	20.59
	1932	M.	20	349	5.0	51.4	47.9	93.2	.322	16.55	15.42
	1930	F.	54	2,070	5.1	50.6	42.2	83.6	.546	27.63	23.02
	1932	F.	64	2,771	4.9	50.1	40.1	80.0	.369	18.49	14.79
Welters	1930	F.	30	240	4.9	53.7	38.0	70.8	.270	14.50	10.25
	1932	F.	19	105	5.0	53.3	38.9	73.0	.224	11.94	8.73
Winders	1930	M.	15	63	4.9	52.6	43.3	82.3	.269	14.15	11.65
	1932	M.	25	84	5.1	52.1	46.4	89.1	.288	15.00	13.36
	1930	F.	86	658	4.9	51.0	40.2	78.8	.323	16.47	12.98
	1932	F.	79	475	4.8	50.8	39.5	77.8	.303	15.39	11.97
Other employees	1930	M.	118	2,956	5.3	53.3	47.3	88.7	.393	21.00	18.56
	1932	M.	120	2,707	5.3	53.0	46.5	87.7	.379	20.09	17.66
	1930	F.	118	3,532	5.0	52.0	40.6	78.1	.280	14.56	11.39
	1932	F.	121	2,806	5.1	51.9	41.2	79.4	.233	12.09	9.60
All occupations	1930	M.	122	12,137	5.1	52.4	45.0	85.9	.707	37.05	31.85
	1932	M.	123	12,908	5.0	52.2	44.1	84.5	.494	25.79	21.80
	1930	F.	122	21,688	4.9	52.1	40.1	77.0	.366	19.07	14.66
	1932	F.	123	20,319	4.9	51.7	39.6	76.6	.292	15.10	11.54
Sexes combined	1930	----	122	33,825	5.0	52.2	41.9	80.3	.497	25.94	20.83
	1932	----	123	33,227	5.0	51.9	41.3	79.6	.376	19.51	15.53

TABLE 2.—AVERAGE DAYS, HOURS, AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY OCCUPATION AND SEX—Continued

Underwear industry

Occupation	Year	Sex	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
							Average number	Per cent of full time			
Buttonhole makers	1930	F.	69	376	4.8	50.3	38.1	75.7	$0.330	$16.60	$12.55
	1932	F.	67	276	4.4	50.9	34.6	68.0	.258	13.13	8.93
Button sewers	1930	F.	64	363	4.8	50.5	37.9	75.0	.306	15.45	11.59
	1932	F.	66	282	4.5	51.2	35.3	68.9	.230	11.78	8.11
Cutters, hand, layers-up, and markers.	1930	M.	40	268	4.9	50.9	41.0	80.6	.452	23.01	18.53
	1932	M.	33	186	4.7	51.0	40.2	78.8	.385	19.64	15.46
	1930	F.	46	447	4.9	50.4	40.2	79.8	.364	18.35	14.66
	1932	F.	48	341	4.6	50.2	37.8	75.3	.286	14.36	10.82
Cutters, power	1930	M.	58	174	5.3	50.9	45.1	88.6	.531	27.03	23.92
	1932	M.	65	174	5.0	51.0	42.5	83.3	.424	21.62	17.99
	1930	F.	12	31	5.4	50.9	46.2	90.8	.393	20.00	18.15
	1932	F.	12	23	4.7	48.9	36.4	74.4	.326	15.94	11.85
Finishers:											
Edge	1930	F.	69	770	4.9	50.6	40.0	79.1	.339	17.15	13.53
	1932	F.	71	601	4.6	50.8	36.7	72.2	.253	12.85	9.29
Face	1930	F.	73	761	4.9	50.3	39.1	77.7	.343	17.25	13.40
	1932	F.	59	569	4.4	50.9	34.5	67.8	.252	12.83	8.70
Neck	1930	F.	73	750	5.0	50.6	40.7	80.4	.357	18.06	14.54
	1932	F.	75	608	4.6	51.2	37.5	73.2	.279	14.28	10.44
Miscellaneous	1930	F.	71	1,239	4.8	50.5	38.2	75.6	.331	16.72	12.65
	1932	F.	75	1,036	4.7	50.4	38.0	75.4	.262	13.20	9.96
Total, all kinds	1930	F.	74	3,520	4.9	50.5	39.4	78.0	.341	17.22	13.41
	1932	F.	76	2,814	4.6	50.8	36.9	72.6	.262	13.31	9.67
Folders	1930	F.	61	711	5.1	50.3	41.3	82.1	.322	16.20	13.27
	1932	F.	74	587	4.6	50.9	36.7	72.1	.269	13.69	9.89
Hemmers	1930	F.	51	325	5.1	49.4	40.7	82.4	.343	16.94	13.96
	1932	F.	54	361	4.6	50.3	36.6	72.8	.266	13.38	9.71
Inspectors	1930	F.	72	1,296	5.0	49.9	39.4	79.0	.270	13.47	10.65
	1932	F.	74	915	4.8	50.4	38.0	75.4	.219	11.04	8.29
Knitters, cuff and anklet	1930	M.	15	35	5.1	50.4	42.4	84.1	.536	27.01	22.75
	1932	M.	12	20	4.5	51.5	40.4	78.4	.428	22.04	17.30
	1930	F.	9	16	5.2	50.7	45.4	89.5	.455	23.07	20.65
	1932	F.	6	8	4.6	50.0	38.8	77.6	.367	18.35	14.24
Knitters, web or tube	1930	M.	61	412	4.8	51.9	42.8	82.5	.515	26.73	22.01
	1932	M.	66	362	4.7	52.3	43.1	82.4	.390	20.40	16.80
	1930	F.	34	197	5.2	49.5	42.9	86.7	.406	20.10	17.42
	1932	F.	25	133	5.0	50.2	42.1	83.9	.322	16.16	13.55
Machine fixers	1930	M.	68	243	5.5	50.7	47.9	94.5	.704	35.69	33.74
	1932	M.	66	186	5.6	50.6	48.8	96.4	.620	31.37	30.23
Menders	1930	F.	53	303	5.1	50.4	42.3	83.9	.305	15.37	12.88
	1932	F.	55	185	4.9	51.1	40.7	79.6	.240	12.26	9.76
Pressers	1930	M.	38	82	5.3	50.9	45.1	88.6	.436	22.96	19.66
	1932	M.	38	82	4.9	50.6	40.5	80.0	.364	18.42	14.74
	1930	F.	45	287	4.9	50.8	39.0	76.8	.357	18.14	13.92
	1932	F.	51	262	4.7	50.7	36.5	72.0	.257	13.03	9.40
Press hands	1930	M.	12	45	4.5	49.5	33.8	68.3	.431	21.33	14.54
	1932	M.	1	8	5.9	50.8	49.6	97.6	.401	20.37	19.89
	1930	F.	15	95	5.4	48.6	42.2	86.8	.348	16.91	14.70
	1932	F.	9	54	4.9	48.7	33.1	68.0	.286	13.93	9.48
Seamers	1930	F.	74	2,345	4.8	50.0	38.3	76.6	.354	17.71	13.58
	1932	F.	76	1,941	4.5	50.6	35.4	70.0	.274	13.86	9.71
Winders	1930	M.	14	42	4.2	50.3	39.2	77.9	.424	21.33	16.62
	1932	M.	13	29	5.0	52.2	47.3	90.6	.332	17.33	15.69
	1930	F.	50	537	5.0	48.8	39.8	81.6	.357	17.42	14.22
	1932	F.	44	248	4.2	49.4	34.7	70.2	.300	14.82	10.43
Other employees	1930	M.	74	1,609	5.3	50.6	46.6	92.1	.400	20.24	18.61
	1932	M.	74	1,127	5.0	50.9	43.4	85.3	.381	19.39	16.55
	1930	F.	72	1,396	4.9	50.5	40.2	79.6	.287	14.49	11.54
	1932	F.	72	1,134	4.7	50.5	37.9	75.0	.245	12.37	9.30
All occupations	1930	M.	74	2,910	5.2	50.9	45.1	88.6	.458	23.31	20.65
	1932	M.	76	2,174	5.0	51.1	43.4	84.9	.408	20.85	17.72
	1930	F.	74	12,245	4.9	50.2	39.5	78.7	.330	16.57	13.04
	1932	F.	76	9,564	4.6	50.6	36.8	72.7	.260	13.16	9.56
Sexes combined	1930	----	74	15,155	5.0	50.3	40.6	80.7	.357	17.96	14.50
	1932	----	76	11,738	4.7	50.7	38.0	75.0	.292	14.80	11.08

Hours and Earnings in Each Industry, 1930 and 1932, by Sex and State

TABLE 3 shows average days, hours, and earnings, and the per cent of full time worked by wage earners in each of the two industries covered, by sex and State, in 1930 and 1932. In order to avoid publishing figures for one mill in any State and thus possibly revealing its identity, the wage figures for two States were combined in certain cases, as, for instance, those of Alabama and Louisiana, Maryland and West Virginia, and Minnesota and Wisconsin in the hosiery industry and for New Hampshire and Vermont in the underwear industry.

Hosiery industry.—Days worked in one week by the males covered in all States in the table averaged 5.1 in 1930 and 5.0 in 1932, and by those in the different States ranged in 1930 from a low of 4.8 to a high of 5.7, and in 1932 from 4.7 to 5.6. Females in all States averaged 4.9 days in 1930 and 1932, and their averages in different States ranged from 4.3 to 5.5 in 1930, and from 4.6 to 5.5 in 1932.

Full-time hours per week for males covered in all States in the table averaged 52.4 in 1930 and 52.2 in 1932 and for those in different States ranged in 1930 from an average of 47.7 to 55.8, and in 1932 from 47.7 to 55.5. Females in all States combined averaged 52.1 in 1930 and 51.7 in 1932 and their averages in different States ranged from 47.8 to 55.8 in 1930, and from 47.7 to 55.4 in 1932.

Hours actually worked in one week by males covered in all States in the table averaged 45 in 1930 and 44.1 in 1932, and by those in various States ranged in 1930 from an average of 39.2 to 50, and in 1932 from 39.5 to 54.7. Females in all States averaged 40.1 in 1930 and 39.6 in 1932 and their averages in different States ranged from 33.4 to 47.5 in 1930, and from 33.5 to 46.4 in 1932.

The per cent of full time worked in one week by males in all States combined was 85.9 in 1930 and 84.5 in 1932, and in the different States ranged from 80 to 101 in 1930, and from 73.6 to 98.6 per cent in 1932. Females in all States combined worked 77 per cent of full time in 1930 and 76.6 per cent in 1932, and the per cent in different States ranged from 68 to 92.2 in 1930, and from 66.1 to 87.9 in 1932.

Average earnings per hour of males in all States combined were 70.7 cents in 1930 and 49.4 cents in 1932, and for those in different States ranged from 33.7 cents to $1.217 in 1930, and from 20.9 to 76.7 cents in 1932. Females in all States combined earned an average of 36.6 cents in 1930 and 29.2 cents in 1932, and their averages in different States ranged from 19.4 to 53 cents in 1930, and from 13.8 to 38 cents in 1932. Average earnings per hour of males and of females for each State, except one, were less in 1932 than in 1930. The loss to both sexes combined ranged by States from 0.5 cent for the State with the least decrease to 33.8 cents per hour for the State in which the greatest decrease occurred.

Full-time earnings per week of males in all States combined averaged $37.05 in 1930 and $25.79 in 1932 and in different States ranged in 1930 from an average of $17.76 to $58.05, and in 1932 from $11.58 to $37.05. Females in all States combined averaged $19.07 in 1930 and $15.10 in 1932, and their averages in different States ranged from $10.69 to $25.65 in 1930, and from $7.53 to $18.84 in 1932.

Actual earnings of males in one week in all States combined averaged $31.85 in 1930 and $21.80 in 1932 and in the various States ranged in 1930 from $15.52 to $58.69, and in 1932 from $8.52 to $33.96. Females in all States combined averaged $14.66 in 1930 and $11.54 in 1932, and their averages ranged by States from $8.52 to $21.99 in 1930, and from $5.87 to $15.31 in 1932.

Underwear industry.—Males covered in this industry in all States combined worked an average of 5.2 days in 1930 and 5 days in 1932, and females an average of 4.9 in 1930 and 4.6 in 1932. Full-time hours per week of males averaged 50.9 in 1930 and 51.1 in 1932, and of females averaged 50.2 in 1930 and 50.6 in 1932. Hours actually worked by males averaged 45.1 in 1930 and 43.4 in 1932 and by females averaged 39.5 in 1930 and 36.8 in 1932. Males worked 88.6 per cent of full time in 1930 and 84.9 per cent in 1932, and females 78.7 per cent in 1930 and 72.7 per cent in 1932. Males earned an average of 45.8 cents per hour in 1930 and 40.8 cents in 1932, and females earned an average of 33 cents per hour in 1930 and 26 cents in 1932. Full-time earnings per week of males averaged $23.31 in 1930 and $20.85 in 1932 and of females averaged $16.57 in 1930 and $13.16 in 1932. Males actually earned an average of $20.65 in 1930 and $17.72 in 1932, and females earned an average of $13.04 in 1930 and $9.56 in 1932.

TABLE 3.—AVERAGE DAYS, HOURS, AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE

Hosiery industry

Sex and State	Year	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
						Average number	Per cent of full time			
Males										
Alabama and Louisiana	1930	4	298	5.4	55.6	50.0	89.9	$0.339	$18.85	$16.97
	1932	3	152	4.7	55.4	40.8	73.6	.209	11.58	8.52
Georgia	1930	5	482	5.2	54.3	46.5	85.6	.369	20.04	17.15
	1932	6	459	5.1	55.4	47.0	84.8	.301	16.68	14.14
Illinois	1930	6	227	5.3	55.0	46.6	84.7	.422	23.21	19.67
	1932	3	187	4.9	51.8	39.5	76.3	.427	22.12	16.85
Indiana	1930	3	383	5.4	49.5	45.6	92.1	.950	47.03	43.37
	1932	3	591	4.8	49.4	42.7	86.4	.644	31.81	27.50
Maryland and West Virginia	1930	5	316	5.2	55.1	44.2	80.2	.351	19.34	15.52
	1932	6	250	5.2	55.4	43.7	78.9	.341	18.89	14.90
Massachusetts	1930	8	554	5.1	49.0	39.2	80.0	.852	41.75	33.40
	1932	7	455	5.5	48.6	44.5	91.6	.643	31.25	28.61
Michigan	1930	3	32	5.7	51.1	48.7	95.3	.656	33.52	31.99
	1932	4	106	4.9	51.1	42.4	83.0	.536	27.39	22.69
Minnesota and Wisconsin	1930	5	783	5.6	49.7	47.1	94.8	.793	39.41	37.38
	1932	5	970	4.9	50.2	42.7	85.1	.518	26.00	22.09
New Hampshire	1930	4	110	4.8	51.6	44.1	85.5	.466	24.05	20.56
	1932	2	62	4.8	51.3	41.9	81.7	.464	23.80	19.41
New Jersey	1930	5	534	5.6	47.7	48.2	101.0	1.217	58.05	58.69
	1932	5	679	5.4	47.7	44.3	92.9	.654	31.20	29.00
New York	1930	4	281	5.4	49.7	41.9	84.3	1.116	55.47	46.83
	1932	4	365	5.6	48.3	44.3	91.7	.767	37.05	33.96
North Carolina	1930	16	1,562	5.0	55.8	46.1	82.6	.450	25.11	20.75
	1932	14	1,634	4.9	55.1	44.3	80.4	.378	20.83	16.75
Philadelphia, Pa	1930	19	1,973	5.0	48.6	43.0	88.5	1.066	51.81	45.79
	1932	19	1,925	4.9	48.2	42.0	87.1	.621	29.93	26.09
Eastern Pennsylvania [1]	1930	17	3,309	5.0	53.8	44.2	82.2	.710	38.20	31.40
	1932	21	3,510	4.9	54.2	43.4	80.1	.486	26.34	21.09

[1] Excluding Philadelphia.

TABLE 3.—AVERAGE DAYS, HOURS AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE—Continued

Hosiery industry—Continued

Sex and State	Year	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
						Average number	Per cent of full time			
Males—Continued										
Eastern Pennsylvania [2]	1930	36	5,282	5.0	51.9	43.7	84.2	$0.841	$43.65	$36.77
	1932	40	5,435	4.9	52.1	42.9	82.3	.533	27.77	22.86
Tennessee	1930	13	1,075	5.0	55.1	47.5	86.2	.419	23.09	19.90
	1932	15	1,249	5.0	54.0	48.7	90.2	.380	20.52	18.48
Virginia	1930	4	204	5.7	52.7	49.2	93.4	.337	17.76	16.55
	1932	6	314	5.6	55.5	54.7	98.6	.330	18.32	18.05
Total	1930	122	12,137	5.1	52.4	45.0	85.9	.707	37.05	31.85
	1932	123	12,908	5.0	52.2	44.1	84.5	.494	25.79	21.80
Females										
Alabama and Louisiana	1930	4	744	5.4	55.1	47.5	86.2	.194	10.69	9.20
	1932	3	449	4.9	54.6	42.5	77.8	.138	7.53	5.87
Georgia	1930	5	932	5.0	54.6	41.7	76.4	.205	11.19	8.52
	1932	6	889	5.2	55.4	40.8	73.6	.181	10.03	7.38
Illinois	1930	6	730	4.9	54.8	40.5	73.9	.246	13.48	9.97
	1932	3	465	4.8	50.7	33.5	66.1	.259	13.13	8.66
Indiana	1930	3	724	5.4	49.7	45.8	92.2	.452	22.46	20.68
	1932	3	733	5.0	49.7	40.4	81.3	.379	18.84	15.31
Maryland and West Virginia	1930	5	716	4.3	55.0	37.4	68.0	.286	15.73	10.70
	1932	6	518	4.6	54.5	40.0	73.4	.237	12.92	9.50
Massachusetts	1930	8	827	4.7	48.0	33.4	69.6	.392	18.82	13.07
	1932	7	626	5.5	48.0	42.2	87.9	.348	16.70	14.69
Michigan	1930	3	147	5.0	51.0	39.1	76.7	.379	19.33	14.84
	1932	4	218	5.1	50.7	40.4	79.7	.272	13.79	10.99
Minnesota and Wisconsin	1930	5	1,675	5.3	49.5	42.6	86.1	.411	20.34	17.53
	1932	5	1,540	5.3	49.2	37.8	76.8	.320	15.74	12.10
New Hampshire	1930	4	310	4.5	49.5	38.4	77.6	.330	16.34	12.68
	1932	2	159	5.0	49.5	39.3	79.4	.268	13.27	10.55
New Jersey	1930	5	793	5.5	47.8	41.5	86.8	.530	25.33	21.99
	1932	5	1,095	5.1	47.7	39.3	82.4	.380	18.13	14.94
New York	1930	4	523	5.1	49.7	35.8	72.0	.516	25.65	18.47
	1932	4	773	5.1	48.1	36.9	76.7	.377	18.13	13.90
North Carolina	1930	16	2,409	5.0	55.8	42.9	76.9	.295	16.46	12.67
	1932	14	2,475	4.8	55.0	39.9	72.5	.238	13.09	9.50
Philadelphia, Pa	1930	19	3,536	4.8	48.5	36.9	76.1	.510	24.74	18.84
	1932	19	2,939	4.8	48.3	38.6	79.9	.373	18.02	14.37
Eastern Pennsylvania [1]	1930	17	4,264	4.8	53.1	39.1	73.6	.413	21.93	16.14
	1932	21	4,568	4.9	53.1	39.2	73.8	.299	15.88	11.71
Eastern Pennsylvania [2]	1930	36	7,800	4.8	51.0	38.1	74.7	.456	23.26	17.36
	1932	40	7,507	4.9	51.2	38.9	76.0	.327	16.74	12.75
Tennessee	1930	13	2,737	4.8	54.7	40.7	74.4	.248	13.57	10.11
	1932	15	2,338	4.8	53.5	40.8	76.3	.228	12.20	9.30
Virginia	1930	4	581	5.3	52.1	42.2	81.0	.234	12.19	9.90
	1932	6	534	5.3	54.1	46.4	85.8	.209	11.31	9.70
Total	1930	122	21,688	4.9	52.1	40.1	77.0	.366	19.07	14.66
	1932	123	20,319	4.9	51.7	39.6	76.6	.292	15.10	11.54
Males and females										
Alabama and Louisiana	1930	4	1,042	5.4	55.3	48.2	87.2	.237	13.11	11.42
	1932	3	601	4.9	54.8	42.1	76.8	.155	8.49	6.54
Georgia	1930	5	1,414	5.1	54.5	43.3	79.4	.265	14.44	11.46
	1932	6	1,348	5.2	55.4	42.9	77.4	.225	12.47	9.68
Illinois	1930	6	957	5.0	54.9	42.0	76.5	.292	16.03	12.27
	1932	3	652	4.8	51.0	35.2	69.0	.313	15.96	11.01
Indiana	1930	3	1,107	5.4	49.6	45.7	92.1	.624	30.95	28.53
	1932	3	1,324	4.9	49.6	41.4	83.5	.501	24.85	20.75
Maryland and West Virginia	1930	5	1,032	4.6	55.0	39.5	71.8	.309	17.00	12.17
	1932	6	768	4.8	54.8	41.2	75.2	.273	14.96	11.26
Massachusetts	1930	8	1,381	4.9	48.4	35.7	73.8	.594	28.75	21.23
	1932	7	1,081	5.5	48.2	43.1	89.4	.476	22.94	20.55
Michigan	1930	3	179	5.1	51.0	40.8	80.0	.439	22.39	17.90
	1932	4	324	5.0	50.8	41.0	80.7	.361	18.34	14.82
Minnesota and Wisconsin	1930	5	2,458	5.4	49.6	44.0	88.7	.542	26.88	23.85
	1932	5	2,510	5.1	49.6	39.7	80.0	.402	19.94	15.96

[1] Excluding Philadelphia.

[2] Including Philadelphia.

TABLE 3.—AVERAGE DAYS, HOURS, AND EARNINGS, IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE—Continued

Hosiery industry—Continued

Sex and State	Year	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week: Average number	Hours actually worked in 1 week: Per cent of full time	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Males and females—Continued										
New Hampshire	1930	4	420	4.6	50.1	39.9	79.6	$0.369	$18.49	$14.75
	1932	2	221	4.9	50.0	40.0	80.0	.326	16.30	13.04
New Jersey	1930	5	1,327	5.5	47.8	44.2	92.5	.831	39.72	36.76
	1932	5	1,774	5.2	47.7	41.2	86.4	.493	23.52	20.32
New York	1930	4	804	5.2	49.7	38.0	76.5	.748	37.18	28.38
	1932	4	1,138	5.3	48.1	39.3	81.7	.518	24.92	20.33
North Carolina	1930	16	3,971	5.0	55.8	44.2	79.2	.359	20.03	15.85
	1932	14	4,109	4.8	55.0	41.7	75.8	.297	16.34	12.38
Philadelphia, Pa	1930	19	5,509	4.9	48.5	39.1	80.6	.729	35.36	28.49
	1932	19	4,864	4.9	48.2	39.9	82.8	.476	22.94	19.01
Eastern Pennsylvania [1]	1930	17	7,573	4.9	53.4	41.3	77.3	.552	29.48	22.80
	1932	21	8,078	4.9	53.6	41.0	76.5	.385	20.64	15.78
Eastern Pennsylvania [2]	1930	36	13,082	4.9	51.3	40.4	78.8	.624	32.01	25.20
	1932	40	12,942	4.9	51.6	40.6	78.7	.419	21.62	17.00
Tennessee	1930	13	3,812	4.9	54.8	42.6	77.7	.302	16.55	12.87
	1932	15	3,587	4.9	53.6	43.6	81.3	.287	15.38	12.50
Virginia	1930	4	785	5.4	52.2	44.0	84.3	.264	13.78	11.63
	1932	6	848	5.4	54.6	49.5	90.7	.259	14.14	12.79
Total	1930	122	33,825	5.0	52.2	41.9	80.3	.497	25.94	20.83
	1932	123	33,227	5.0	51.9	41.3	79.6	.376	19.51	15.53

Underwear industry

Males										
Connecticut	1930	3	63	5.9	50.8	50.5	99.4	$0.519	$26.37	$26.19
	1932	2	51	4.4	50.1	35.1	70.1	.500	25.05	17.52
Georgia	1932	3	62	5.7	56.2	53.3	94.8	.199	11.18	10.62
Illinois	1930	3	63	5.7	48.1	45.8	95.2	.615	29.58	28.14
	1932	1	25	[3]	[3]	[3]	[3]	[3]	[3]	[3]
Indiana	1930	2	43	5.3	48.0	44.6	92.9	.604	28.99	26.92
	1932	2	56	5.0	48.7	40.1	82.3	.464	22.60	18.59
Massachusetts	1930	5	198	5.3	48.2	42.7	88.6	.563	27.14	24.04
	1932	5	131	5.1	48.6	42.4	87.2	.518	25.17	21.96
Michigan	1930	2	58	5.3	51.2	49.3	96.3	.511	26.16	25.17
	1932	2	52	5.1	50.5	43.1	85.3	.425	21.46	18.32
Minnesota	1930	2	32	5.8	48.0	47.8	99.6	.590	28.32	28.17
	1932	2	55	4.8	48.3	40.4	83.6	.567	27.39	22.88
New Hampshire and Vermont	1930	3	184	5.6	49.6	43.8	88.3	.533	26.44	23.31
	1932	3	129	5.0	49.9	40.3	80.8	.478	23.85	19.25
New York	1930	23	1,238	5.2	49.2	44.3	90.0	.466	22.93	20.62
	1932	23	774	4.9	49.8	41.4	83.1	.427	21.26	17.68
North Carolina	1930	3	294	4.7	53.4	44.5	83.3	.326	17.41	14.49
	1932	4	142	5.3	52.9	50.5	95.5	.268	14.18	13.54
Pennsylvania	1930	16	270	5.5	53.9	50.4	93.5	.456	24.58	22.98
	1932	16	268	5.3	53.5	49.8	93.1	.411	21.99	20.47
Rhode Island	1930	2	54	5.7	51.2	50.6	98.8	.498	25.50	25.19
	1932	2	61	5.7	51.6	49.7	96.3	.468	24.15	23.29
Tennessee	1930	5	357	4.6	55.1	44.1	80.0	.352	19.40	15.53
	1932	5	258	4.2	54.9	39.4	71.8	.287	15.76	11.33
Virginia	1930	3	38	5.0	52.1	44.7	85.8	.464	24.17	20.73
	1932	3	52	5.4	50.0	47.0	94.0	.366	18.30	17.20
Wisconsin	1930	2	18	5.4	49.8	43.4	87.1	.537	26.74	23.29
	1932	3	58	5.3	50.0	45.1	90.2	.562	28.10	25.35
Total	1930	74	2,910	5.2	50.9	45.1	88.6	.458	23.31	20.65
	1932	76	2,174	5.0	51.1	43.4	84.9	.408	20.85	17.72

[1] Excluding Philadelphia.
[2] Including Philadelphia.
[3] Included in total to avoid presenting data for 1 establishment in 1 State.

TABLE 3.—AVERAGE DAYS, HOURS, AND EARNINGS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1930 AND 1932, BY SEX AND STATE—Continued

Underwear industry—Continued

Sex and State	Year	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
						Average number	Per cent of full time			
Females										
Connecticut	1930	3	234	5.6	50.5	44.9	88.9	$0.372	$18.79	$16.72
	1932	2	178	4.2	50.0	31.7	63.4	.345	17.25	10.91
Georgia	1932	3	281	5.8	55.9	52.3	93.6	.168	9.39	8.82
Illinois	1930	3	373	4.7	47.4	33.1	69.8	.459	21.76	15.16
	1932	1	194	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Indiana	1930	2	333	4.5	46.7	35.8	76.7	.406	18.96	14.54
	1932	2	263	3.9	47.8	29.2	61.1	.266	12.71	7.78
Massachusetts	1930	5	1,299	5.0	48.0	40.0	83.3	.379	18.19	15.15
	1932	5	784	4.5	48.0	32.2	67.1	.329	15.79	10.58
Michigan	1930	2	627	5.0	51.9	43.8	84.4	.292	15.15	12.80
	1932	2	505	5.0	52.1	42.3	81.2	.237	12.35	10.03
Minnesota	1930	2	661	5.4	48.0	41.6	86.7	.431	20.69	17.91
	1932	2	473	4.7	48.0	34.5	71.9	.380	18.24	13.09
New Hampshire and Vermont	1930	3	601	5.5	49.4	45.1	91.3	.383	18.92	17.25
	1932	3	479	4.3	49.5	32.6	65.9	.253	12.52	8.24
New York	1930	23	3,840	4.9	48.6	35.9	73.9	.305	14.82	10.95
	1932	23	2,612	4.5	49.1	34.6	70.5	.257	12.62	8.89
North Carolina	1930	3	738	5.0	53.4	46.3	86.7	.241	12.87	11.14
	1932	4	439	5.1	53.4	44.4	83.1	.181	9.67	8.04
Pennsylvania	1930	16	1,390	4.9	52.7	40.6	77.0	.333	17.55	13.52
	1932	16	1,520	4.9	52.4	40.8	77.9	.269	14.10	10.96
Rhode Island	1930	2	436	5.6	51.1	45.4	88.8	.345	17.63	15.66
	1932	2	392	5.1	51.0	43.0	84.3	.270	13.77	11.62
Tennessee	1930	5	1,169	4.1	54.9	38.0	69.2	.274	15.04	10.41
	1932	5	877	3.6	54.8	32.0	58.4	.201	11.01	6.43
Virginia	1930	3	265	4.9	52.4	44.0	84.0	.262	13.73	11.52
	1932	3	184	4.3	49.6	35.9	72.4	.207	10.27	7.44
Wisconsin	1930	2	279	4.9	49.6	39.7	80.0	.382	18.95	15.19
	1932	3	383	5.1	49.9	38.9	78.0	.272	13.57	10.61
Total	1930	74	12,245	4.9	50.2	39.5	78.7	.330	16.57	13.04
	1932	76	9,564	4.6	50.6	36.8	72.7	.260	13.16	9.56
Males and females										
Connecticut	1930	3	297	5.7	50.5	46.1	91.3	.406	20.50	18.73
	1932	2	229	4.2	50.0	32.4	64.8	.382	19.10	12.38
Georgia	1932	3	343	5.8	56.0	52.5	93.8	.174	9.74	9.14
Illinois	1930	3	436	4.9	47.5	34.9	73.5	.488	23.18	17.03
	1932	1	219	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Indiana	1930	2	376	4.6	46.9	36.8	78.5	.433	20.31	15.95
	1932	2	319	4.1	48.0	31.1	64.8	.311	14.93	9.68
Massachusetts	1930	5	1,497	5.1	48.0	40.4	84.2	.404	19.39	16.32
	1932	5	915	4.6	48.1	33.6	69.9	.363	17.46	12.21
Michigan	1930	2	685	5.1	51.9	44.3	85.4	.313	16.24	13.85
	1932	2	557	5.0	51.9	42.4	81.7	.255	13.23	10.80
Minnesota	1930	2	693	5.4	48.0	41.8	87.1	.439	21.07	18.38
	1932	2	528	4.7	48.0	35.1	73.1	.402	19.30	14.11
New Hampshire and Vermont	1930	3	785	5.5	49.4	44.8	90.7	.417	20.60	18.67
	1932	3	608	4.4	49.6	34.2	69.0	.309	15.33	10.58
New York	1930	23	5,078	4.9	48.7	37.9	77.8	.351	17.09	13.31
	1932	23	3,386	4.6	49.2	36.2	73.6	.301	14.81	10.90
North Carolina	1930	3	1,032	4.9	53.4	45.7	85.6	.264	14.10	12.09
	1932	4	581	5.1	53.3	45.9	86.1	.205	10.93	9.39
Pennsylvania	1930	16	1,660	5.0	52.9	42.2	79.8	.357	18.89	15.06
	1932	16	1,788	5.0	52.6	42.1	80.0	.294	15.46	12.39
Rhode Island	1930	2	490	5.6	51.1	45.9	89.8	.364	18.60	16.71
	1932	2	453	5.2	51.1	43.9	85.9	.300	15.33	13.19
Tennessee	1930	5	1,526	4.2	55.0	39.5	71.8	.294	16.17	11.61
	1932	5	1,135	3.7	54.8	33.7	61.5	.224	12.28	7.54
Virginia	1930	3	303	5.0	52.4	44.1	84.2	.288	15.09	12.68
	1932	3	236	4.5	49.7	38.3	77.1	.250	12.43	9.59
Wisconsin	1930	2	297	5.0	49.6	40.0	80.6	.392	19.44	15.68
	1932	3	441	5.1	49.9	39.7	79.6	.316	15.77	12.55
Total	1930	74	15,155	5.0	50.3	40.6	80.7	.357	17.96	14.50
	1932	76	11,738	4.7	50.7	38.0	75.0	.292	14.80	11.08

[1] Included in total to avoid presenting data for 1 establishment in 1 State.

Hours and Earnings in Representative Occupations, 1932

TABLE 4 presents average days, hours, and earnings for the wage earners covered in six representative occupations in each industry in each State or group of States where found in 1932. These figures illustrate the variations in hours and earnings of the wage earners in each of the occupations in each industry and State. Thus, the average full-time hours per week of boarders, male, the first occupation in the table, ranged in the different States from 46.3 to 55.2, and for all States averaged 53.3; average hours actually worked in one week ranged, by States, from 29.1 to 50.3, and for all States averaged 38.8 hours. The per cent of full-time worked ranged, by States, from 59.1 to 99.4 and for all States was 72.8 per cent. Average earnings per hour ranged from 22.2 to 62.5 cents, and for all States averaged 38 cents. Average full-time earnings per week ranged from $12.17 to $31.19, and for all States averaged $20.25. Average actual earnings in one week ranged from $7.18 to $26.15 and for all States averaged $14.73.

TABLE 4.—AVERAGE DAYS, HOURS, AND EARNINGS IN SELECTED OCCUPATIONS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1932, BY SEX AND STATE

Hosiery industry

State	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week: Average number	Hours actually worked in 1 week: Per cent of full time	Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
Boarders, male:									
Alabama and Louisiana	2	33	4.9	54.8	32.4	59.1	$0.222	$12.17	$7.18
Georgia	6	93	5.2	55.2	38.9	70.5	.263	14.52	10.25
Illinois	2	26	5.3	51.7	40.7	78.7	.357	18.46	14.53
Indiana	2	16	4.9	49.9	41.9	84.0	.625	31.19	26.15
Maryland and West Virginia	3	35	5.4	54.7	47.1	86.1	.339	18.54	16.00
Massachusetts	4	40	5.3	48.0	40.9	85.2	.473	22.70	19.32
Michigan	4	18	4.4	50.8	32.3	63.6	.386	19.61	12.43
Minnesota and Wisconsin	4	40	5.3	51.4	34.5	67.1	.366	18.81	12.62
New Hampshire	2	6	5.0	48.0	29.1	60.6	.356	17.09	10.34
New Jersey	2	31	5.2	46.3	38.5	83.2	.528	24.45	20.33
New York	1	3	6.0	49.5	49.2	99.4	.431	21.33	21.18
North Carolina	13	394	4.8	55.1	38.1	69.1	.290	15.98	11.03
Philadelphia, Pa	11	153	5.0	48.4	38.2	78.9	.604	29.23	23.09
Eastern Pennsylvania [1]	13	380	4.8	54.1	35.3	65.2	.480	25.97	16.94
Eastern Pennsylvania [2]	24	533	4.9	52.4	36.1	68.9	.518	27.14	18.70
Tennessee	12	193	4.9	53.9	44.9	83.3	.295	15.90	13.24
Virginia	5	52	5.6	54.2	50.3	92.8	.233	12.63	11.71
Total	86	1,513	4.9	53.3	38.8	72.8	.380	20.25	14.73
Boarders, female:									
Illinois	2	29	4.7	51.3	34.5	67.3	.186	9.54	6.41
Indiana	2	78	4.4	49.8	30.8	61.8	.427	21.26	13.15
Maryland and West Virginia	1	2	[3]	[3]	[3]	[3]	[3]	[3]	[3]
Massachusetts	4	26	5.6	48.0	42.2	87.9	.436	20.93	18.36
Michigan	2	12	6.0	50.0	36.1	72.2	.272	13.60	9.83
Minnesota and Wisconsin	4	119	4.9	49.4	25.8	52.2	.426	21.04	11.00
New Hampshire	1	6	5.0	48.0	44.5	92.7	.247	11.86	11.01
New Jersey	3	81	5.7	48.1	37.4	77.8	.573	27.56	21.46
New York	4	93	4.3	47.0	27.5	58.5	.540	25.38	14.87
North Carolina	1	6	5.8	55.0	44.7	81.3	.257	14.14	11.47
Philadelphia, Pa	12	179	4.9	49.5	36.0	72.7	.437	21.63	15.73
Eastern Pennsylvania [1]	3	45	5.4	54.0	39.6	73.3	.233	12.58	9.24
Eastern Pennsylvania [2]	15	224	5.0	50.4	36.7	72.8	.393	19.81	14.42
Tennessee	3	42	4.4	53.8	29.9	55.6	.233	12.54	6.96
Virginia	1	8	4.5	55.0	42.0	76.4	.208	11.44	8.75
Total	43	726	4.9	49.7	33.1	66.6	.416	20.68	13.76

[1] Excluding Philadelphia. [2] Including Philadelphia. [3] Data included in total.

TABLE 4.—AVERAGE DAYS, HOURS, AND EARNINGS IN SELECTED OCCUPATIONS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1932, BY SEX AND STATE—Con.

Hosiery industry—Continued

State	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Knitters, footers, full-fashioned, male:									
Georgia	2	18	5.2	55.1	53.6	97.3	$0.386	$21.27	$20.70
Indiana	3	98	4.9	49.6	43.0	86.7	.780	38.69	33.54
Massachusetts	7	62	5.4	48.4	43.2	89.3	.873	42.25	37.71
Michigan	2	11	5.4	50.3	46.2	91.8	.703	35.36	32.46
Minnesota and Wisconsin	3	124	4.9	49.0	42.4	86.5	.720	35.28	30.53
New Jersey	5	114	5.2	46.3	41.0	88.6	.803	37.18	32.97
New York	3	54	5.4	47.9	43.1	90.0	.891	42.68	38.41
North Carolina	4	115	4.6	55.0	40.0	72.7	.654	35.97	26.15
Philadelphia, Pa	12	245	4.9	45.7	38.8	84.9	.848	38.75	32.92
Eastern Pennsylvania [1]	15	402	4.8	53.9	42.4	78.7	.791	42.63	33.49
Eastern Pennsylvania [2]	27	647	4.8	50.8	41.0	80.7	.811	41.20	33.27
Tennessee	4	74	5.4	53.7	49.4	92.0	.569	30.56	28.10
Virginia	3	22	5.7	55.5	55.7	100.4	.530	29.42	29.49
Total	63	1,339	5.0	50.6	42.3	83.6	.763	38.61	32.29
Knitters, leggers, full-fashioned, male:									
Georgia	2	61	5.3	55.7	49.9	89.6	.328	18.27	16.35
Indiana	3	322	4.7	49.2	41.5	84.3	.659	32.42	27.31
Massachusetts	7	217	5.4	48.5	44.1	90.9	.728	35.31	32.13
Michigan	2	36	4.7	52.0	44.1	84.8	.634	32.97	27.94
Minnesota and Wisconsin	3	322	4.6	49.8	40 5	81.3	.628	31.27	25.41
New Jersey	5	399	5.4	48.4	45.3	93.6	.652	31.56	29.52
New York	3	212	5.6	48.1	43.9	91.3	.815	39.20	35.75
North Carolina	4	323	4.7	55.0	46.6	84.7	.493	27.12	22.95
Philadelphia, Pa	12	726	4.6	48.9	41.1	84.0	.804	39.32	33.05
Eastern Pennsylvania [1]	15	981	4.7	54.2	43.8	80.8	.590	31.98	25.83
Eastern Pennsylvania [2]	27	1,707	4.7	52.0	42.6	81.9	.678	35.26	28.90
Tennessee	4	243	5.4	54.5	53.4	98.0	.510	27.80	27.22
Virginia	3	73	5.5	56.6	57.0	100.7	.382	21.62	21.78
Total	63	3,915	4.9	51.3	44.2	86.2	.638	32.73	28.16
Knitters, transfer, male:									
Alabama and Louisiana	1	35	4.2	55.5	36.6	65.9	.131	7.27	4.77
Georgia	1	19	3.5	57.3	38.7	67.5	.154	8.82	5.97
Minnesota and Wisconsin	2	18	4.9	52.9	44.1	83.4	.252	13.33	11.08
North Carolina	1	6	5.2	55.0	47.5	86.4	.133	7.32	6.31
Eastern Pennsylvania [1]	2	12	5.2	55.0	52.7	95.8	.280	15.40	14.76
Tennessee	6	77	4.3	52.5	43.8	83.4	.206	10.82	9.01
Total	13	167	4.3	54.0	42.5	78.7	.196	10.58	8.32
Knitters, transfer, female:									
Alabama and Louisiana	3	164	4.7	55.0	42.4	77.1	.138	7.59	5.84
Georgia	4	115	4.4	56.2	40.3	71.7	.141	7.92	5.69
Illinois	1	6	3.3	53.0	17.1	32.2	.209	11.08	3.59
Maryland and West Virginia	5	147	4.6	54.3	40.7	75.0	.261	14.17	10.63
Michigan	2	21	3.8	50.8	33.3	65.6	.277	14.07	9.24
Minnesota and Wisconsin	5	63	5.0	49.6	42.2	85.1	.302	14.98	12.77
New Hampshire	2	39	5.4	48.3	43.7	90.5	.266	12.85	11.65
North Carolina	5	178	4.7	55.0	43.8	79.6	.172	9.46	7.52
Philadelphia, Pa	2	16	5.7	52.7	50.4	95.6	.323	17.02	16.26
Eastern Pennsylvania [1]	10	362	4.8	54.1	43.1	79.7	.225	12.17	9.67
Eastern Pennsylvania [2]	12	378	4.8	54.0	43.4	80.4	.229	12.37	9.95
Tennessee	7	327	4.2	52.6	38.7	73.6	.197	10.36	7.62
Virginia	2	50	4.4	53.2	38.7	72.7	.193	10.27	7.48
Total	48	1,488	4.6	53.7	41.4	77.1	.205	11.01	8.48
Loopers, female:									
Alabama and Louisiana	3	89	4.9	54.7	44.7	81.7	.144	7.88	6.45
Georgia	6	197	5.3	55.5	36.1	65.0	.206	11.43	7.45
Illinois	2	119	4.8	50.5	27.1	53.7	.266	13.43	7.21
Indiana	3	82	5.4	49.8	40.8	81.9	.441	21.96	18.00
Maryland and West Virginia	5	103	4.0	54.7	34.0	62.2	.239	13.07	8.11
Massachusetts	7	81	5.3	48.0	39.2	81.7	.384	18.43	15.07
Michigan	4	27	4.4	50.8	34.1	67.1	.322	16.36	10.98

[1] Excluding Philadelphia.

[2] Including Philadelphia.

TABLE 4.—AVERAGE DAYS, HOURS, AND EARNINGS IN SELECTED OCCUPATIONS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1932, BY SEX AND STATE—Con.

Hosiery industry—Continued

State	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Loopers, female—Continued.									
Minnesota and Wisconsin	5	274	5.4	49.5	37.1	74.9	$0.318	$15.74	$11.81
New Hampshire	2	36	4.9	51.4	37.3	72.6	.295	15.16	11.02
New Jersey	5	160	4.3	48.1	32.3	67.2	.392	18.86	12.65
New York	3	73	5.2	48.3	34.9	72.3	.406	19.61	14.14
North Carolina	14	722	4.5	55.0	36.5	66.4	.240	13.20	8.76
Philadelphia, Pa	15	338	4.6	49.0	33.3	68.0	.429	21.02	14.27
Eastern Pennsylvania [1]	21	783	4.9	53.3	37.7	70.7	.309	16.47	11.65
Eastern Pennsylvania [2]	36	1,121	4.8	52.0	36.4	70.0	.342	17.78	12.44
Tennessee	15	489	4.6	53.6	37.1	69.2	.228	12.22	8.46
Virginia	6	127	5.1	54.0	44.0	81.5	.235	12.69	10.36
Total	116	3,700	4.8	52.6	36.6	69.6	.289	15.20	10.58
Menders, female:									
Alabama and Louisiana	3	13	5.2	54.8	40.9	74.6	.165	9.04	6.73
Georgia	6	99	5.8	54.9	51.3	93.4	.173	9.50	8.87
Illinois	3	31	5.0	51.1	40.8	79.8	.227	11.60	9.26
Indiana	3	70	5.4	49.9	49.3	98.8	.404	20.16	19.91
Maryland and West Virginia	6	35	4.2	54.7	38.1	69.7	.271	14.82	10.31
Massachusetts	6	58	5.4	48.0	41.5	86.5	.367	17.62	15.23
Michigan	4	19	5.3	50.9	44.3	87.0	.267	13.59	11.83
Minnesota and Wisconsin	5	186	5.3	49.2	40.6	82.5	.303	14.91	12.28
New Hampshire	2	10	4.1	48.0	35.2	73.3	.259	12.43	9.12
New Jersey	5	111	5.6	48.0	46.2	96.3	.352	16.90	16.26
New York	4	84	5.3	48.1	40.0	83.2	.376	18.09	15.04
North Carolina	14	123	5.0	55.0	45.5	82.7	.215	11.83	9.77
Philadelphia, Pa	19	278	5.1	48.5	41.3	85.2	.407	19.74	16.80
Eastern Pennsylvania [1]	19	338	5.1	53.1	41.9	78.9	.292	15.51	12.23
Eastern Pennsylvania [2]	38	616	5.1	51.1	41.6	81.4	.343	17.53	14.29
Tennessee	15	172	4.8	53.8	41.5	77.1	.218	11.73	9.06
Virginia	6	34	5.3	53.4	45.3	84.8	.185	9.88	8.40
Total	120	1,661	5.2	51.3	42.9	83.6	.301	15.44	12.89

Underwear industry

Buttonhole makers, female:									
Connecticut	2	4	4.0	50.0	27.7	55.4	$0.393	$19.65	$10.90
Georgia	3	14	6.0	56.1	52.6	93.8	.165	9.26	8.70
Illinois	1	6	[3]	[3]	[3]	[3]	[3]	[3]	[3]
Indiana	2	8	3.3	48.5	24.3	50.1	.291	14.11	7.07
Massachusetts	5	13	4.3	48.0	28.1	58.5	.324	15.55	9.11
Michigan	2	7	4.9	51.9	41.9	80.7	.245	12.72	10.25
Minnesota	2	13	4.6	48.0	30.0	62.5	.362	17.38	10.85
New Hampshire and Vermont	3	19	4.2	49.7	32.1	64.6	.279	13.87	8.95
New York	22	86	4.3	49.1	32.5	66.2	.268	13.16	8.73
North Carolina	4	19	4.8	53.4	41.7	78.1	.160	8.54	6.67
Pennsylvania	9	33	4.0	52.7	32.2	61.1	.283	14.91	9.12
Rhode Island	2	11	5.5	51.3	45.6	88.9	.279	14.31	12.74
Tennessee	5	30	3.8	54.8	34.0	62.0	.193	10.58	6.56
Virginia	2	7	4.0	51.0	35.0	68.6	.213	10.86	7.44
Wisconsin	3	6	5.0	49.9	36.1	72.3	.328	16.37	11.83
Total	67	276	4.4	50.9	34.6	68.0	.258	13.13	8.93
Finishers, edge, face, neck, and miscellaneous, female:									
Connecticut	2	54	4.2	50.0	30.3	60.6	.346	17.30	10.47
Georgia	3	74	5.7	55.9	51.1	91.4	.177	9.89	9.04
Illinois	1	49	[3]	[3]	[3]	[3]	[3]	[3]	[3]
Indiana	2	50	3.8	48.0	28.1	58.5	.278	13.34	7.82
Massachusetts	5	225	4.4	48.0	30.9	64.4	.337	16.18	10.41
Michigan	2	125	5.1	52.6	42.3	80.4	.230	12.10	9.70

[1] Excluding Philadelphia. [2] Including Philadelphia. [3] Data included in total.

TABLE 4.—AVERAGE DAYS, HOURS, AND EARNINGS IN SELECTED OCCUPATIONS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1932, BY SEX AND STATE—Con.

Underwear industry—Continued

State	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Finishers, etc., female—Continued.									
Minnesota	2	121	4.9	48.0	37.0	77.1	$0.374	$17.95	$13.84
New Hampshire and Vermont	3	159	4.3	49.5	33.5	67.7	.249	12.33	8.36
New York	23	756	4.5	49.2	34.9	70.9	.267	13.14	9.31
North Carolina	4	155	5.2	53.3	45.3	85.0	.185	9.86	8.39
Pennsylvania	16	527	4.7	52.5	39.1	74.5	.274	14.39	10.73
Rhode Island	2	122	5.4	51.6	46.0	89.1	.243	12.54	11.19
Tennessee	5	244	3.6	54.7	32.6	59.6	.203	11.10	6.61
Virginia	3	57	4.3	49.1	36.8	74.9	.214	10.51	7.87
Wisconsin	3	96	5.1	49.9	38.6	77.4	.277	13.82	10.67
Total	76	2,814	4.6	50.8	36.9	72.6	.262	13.31	9.67
Folders, female:									
Connecticut	1	1	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Georgia	3	11	6.0	56.1	53.7	95.7	.180	10.10	9.66
Illinois	1	17	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Indiana	2	24	3.4	49.0	24.9	50.8	.213	10.44	5.31
Massachusetts	5	44	4.7	48.0	32.6	67.9	.308	14.78	10.04
Michigan	2	17	4.8	51.9	38.1	73.4	.223	11.57	8.49
Minnesota	2	29	4.1	48.0	28.4	59.2	.364	17.47	10.35
New Hampshire and Vermont	3	24	4.8	49.3	39.7	80.5	.260	12.82	10.33
New York	23	130	4.8	49.2	38.2	77.6	.292	14.37	11.16
North Carolina	4	23	4.8	53.6	46.8	87.3	.186	9.97	8.72
Pennsylvania	15	128	5.0	52.5	38.7	73.7	.272	14.28	10.53
Rhode Island	2	18	4.8	50.7	40.3	79.5	.281	14.25	11.32
Tennessee	5	83	3.5	54.8	31.1	56.8	.200	10.96	6.22
Virginia	3	8	4.3	46.8	36.0	76.9	.273	12.78	9.82
Wisconsin	3	30	5.6	49.9	44.0	88.2	.293	14.62	12.89
Total	74	587	4.6	50.9	36.7	72.1	.269	13.69	9.89
Knitters, web or tube, male:									
Georgia	3	10	4.8	56.7	45.9	81.0	.198	11.23	9.08
Illinois	1	1	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Indiana	2	14	4.8	48.9	36.7	75.1	.381	18.63	13.99
Massachusetts	4	25	5.0	52.1	47.2	90.6	.470	24.49	22.20
Michigan	1	2	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Minnesota	1	4	2.0	48.0	17.9	37.3	.546	26.21	9.77
New Hampshire and Vermont	3	16	3.9	49.9	34.0	68.1	.520	25.95	17.68
New York	21	118	4.4	50.3	39.1	77.7	.438	22.03	17.13
North Carolina	3	22	4.3	53.2	44.9	84.4	.259	13.78	11.61
Pennsylvania	14	74	5.4	55.0	53.4	97.1	.381	20.96	20.36
Rhode Island	2	11	5.2	54.5	49.1	90.1	.370	20.17	18.18
Tennessee	5	37	4.0	55.1	37.0	67.2	.287	15.81	10.64
Virginia	3	15	5.7	52.6	50.7	96.4	.288	15.15	14.62
Wisconsin	3	13	4.8	49.9	35.3	70.7	.585	29.19	20.65
Total	66	362	4.7	52.3	43.1	82.4	.390	20.40	16.80
Knitters, web or tube, female:									
Connecticut	2	11	4.5	50.0	37.1	74.2	.358	17.90	13.30
Illinois	1	7	[1]	[1]	[1]	[1]	[1]	[1]	[1]
Indiana	1	3	5.0	44.0	38.5	87.5	.360	15.84	13.86
Massachusetts	2	7	4.9	48.0	39.4	82.1	.358	17.18	14.10
Michigan	2	23	5.0	52.5	46.4	88.4	.256	13.44	11.88
Minnesota	2	11	5.5	48.0	42.6	88.8	.403	19.34	17.18
New York	4	12	3.6	49.4	31.5	63.8	.309	15.26	9.74
Pennsylvania	7	33	5.5	52.0	48.6	93.5	.311	16.17	15.12
Rhode Island	2	17	4.9	50.1	40.9	81.6	.312	15.63	12.76
Wisconsin	2	9	5.1	49.7	39.2	78.9	.327	16.25	12.79
Total	25	133	5.0	50.2	42.1	83.9	.322	16.16	13.55
Pressers, male:									
Connecticut	2	3	4.0	50.0	29.4	58.8	.500	25.00	14.73
Georgia	2	3	6.0	56.7	53.2	93.8	.208	11.79	11.03
Indiana	2	3	5.0	48.0	38.4	80.0	.291	13.97	11.18
Massachusetts	1	2	[1]	[1]	[1]	[1]	[1]	[1]	[1]

[1] Data included in total.

TABLE 4.—AVERAGE DAYS, HOURS, AND EARNINGS IN SELECTED OCCUPATIONS IN THE HOSIERY AND UNDERWEAR INDUSTRIES, 1932, BY SEX AND STATE—Con.

Underwear industry—Continued

State	Number of establishments	Number of wage earners	Average days on which wage earners worked in 1 week	Average full-time hours per week	Hours actually worked in 1 week		Average earnings per hour	Average full-time earnings per week	Average actual earnings in 1 week
					Average number	Per cent of full time			
Pressers, male—Continued.									
Minnesota	1	4	4.3	48.0	35.8	74.6	$0.394	$18.91	$14.10
New Hampshire and Vermont	2	9	5.7	50.0	46.1	92.2	.351	17.55	16.15
New York	17	40	4.7	49.4	38.4	77.7	.403	19.91	15.49
North Carolina	3	9	4.9	53.6	44.5	83.0	.223	11.95	9.94
Pennsylvania	6	7	5.1	53.8	43.8	81.4	.431	23.19	18.86
Tennessee	2	2	4.0	54.8	40.3	73.5	.252	13.81	10.13
Total	38	82	4.9	50.6	40.5	80.0	.364	18.42	14.74
Pressers, female:									
Connecticut	1	3	5.0	50.0	37.3	74.6	.324	16.20	12.08
Georgia	1	1	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Indiana	2	13	3.7	48.2	26.8	55.6	.248	11.95	6.65
Massachusetts	4	23	3.1	48.0	21.1	44.0	.305	14.64	6.44
Michigan	2	34	4.9	53.1	42.4	79.8	.229	12.16	9.68
Minnesota	2	25	5.5	48.0	39.8	82.9	.368	17.66	14.66
New Hampshire and Vermont	2	8	4.6	49.3	38.7	78.5	.272	13.41	10.52
New York	14	44	4.5	49.5	34.4	69.5	.192	9.50	6.62
Pennsylvania	12	65	5.1	52.6	38.6	73.4	.259	13.62	10.02
Rhode Island	2	13	5.0	48.5	41.1	84.7	.292	14.16	11.99
Tennessee	3	15	3.9	55.2	35.0	63.4	.238	13.14	8.34
Virginia	3	5	4.2	47.8	36.8	77.0	.192	9.18	7.05
Wisconsin	3	13	5.5	49.8	42.8	85.9	.265	13.20	11.33
Total	51	262	4.7	50.7	36.5	72.0	.257	13.03	9.40
Seamers, female:									
Connecticut	2	16	3.6	50.0	27.1	54.2	.386	19.30	10.46
Georgia	3	73	5.6	56.1	51.9	92.5	.181	10.15	9.40
Illinois	1	39	(3)	(3)	(3)	(3)	(3)	(3)	(3)
Indiana	2	52	3.4	48.0	25.6	53.3	.279	13.39	7.15
Massachusetts	5	173	4.4	48.0	30.6	63.8	.322	15.46	9.85
Michigan	2	81	4.8	51.0	40.0	78.4	.264	13.46	10.55
Minnesota	2	115	4.7	48.0	34.4	71.7	.363	17.42	12.52
New Hampshire and Vermont	3	105	4.2	49.6	30.2	60.9	.262	13.00	7.91
New York	23	501	4.2	48.9	31.6	64.6	.291	14.23	9.22
North Carolina	4	108	5.1	53.5	44.3	82.8	.197	10.54	8.72
Pennsylvania	16	289	5.0	52.4	42.9	81.9	.283	14.83	12.15
Rhode Island	2	80	4.5	51.1	37.2	72.8	.277	14.15	10.31
Tennessee	5	176	3.6	54.9	30.7	55.9	.213	11.69	6.55
Virginia	3	37	4.2	50.2	33.8	67.3	.206	10.34	6.96
Wisconsin	3	96	4.7	49.9	35.7	71.5	.274	13.67	9.79
Total	76	1,941	4.5	50.6	35.4	70.0	.274	13.86	9.71

[3] Data included in total.

Union Scales of Wages and Hours of Labor in 1932

Part 2.—Average Wage Rates, by Trades[1]

UNION wage rates per hour in 1932, on the average, decreased as compared with rates in 1931, according to the annual survey recently completed by the Bureau of Labor Statistics, covering 595,367 organized workers.

The average hourly rate in 1932 for all trades herein covered was $1.111 as compared with $1.254 in 1931, a decrease of 14.3 cents an hour, or 11.4 per cent. Of the 69 individual time-work trades covered by the survey, 11 showed increases in average wage rates per hour, 1 showed no change in rate, and 57 showed decreases in average rates per hour.

The present article covers the principal time-work trades—bakery trades, building trades, chauffeurs, teamsters and drivers, stone trades, laundry workers, linemen, longshoremen, and printing trades—in 67 important industrial cities. There are many trades whose members are employed wholly or mainly on piecework, but these frequently have a multitude of rates which are practically impossible to incorporate in a general tabulation and difficult to understand by anyone not familiar with the particular industries, and are therefore not included in the present tabulation. The rates for street-railway motormen and conductors and bus drivers have likewise been omitted from this tabulation because their hours of labor are not uniform or susceptible of presentation in the same manner as the trades above enumerated. The data for street-railway employees, pieceworkers, and other employees in occupations that do not readily lend themselves to general tabulation will be published later.

The average rates in the trade groups are shown in Table 1.

TABLE 1.—AVERAGE HOURLY WAGE RATES IN SPECIFIED TRADE GROUPS IN 1932 AS COMPARED WITH 1931

Trade group	Average hourly wage rate		Amount of increase(+) or decrease (−)
	1931	1932	
Bakers	$0.934	$0.951	+$0.017
Building trades	1.428	1.216	−.212
Chauffeurs and teamsters and drivers	.740	.722	−.018
Granite and stone trades	1.437	1.293	−.144
Laundry workers	.481	.487	+.006
Linemen	1.135	1.091	−.044
Longshoremen	.868	.868	(a)
Printing and publishing:			
Book and job	1.068	1.084	+.016
Newspaper	1.247	1.231	−.016
Average, all trades	1.254	1.111	−.143

[a] No change.

[1] Preliminary data on 20 trades in 40 cities were given in the September, 1932, Labor Review (pp. 637–663).

While the average rate per hour for many years was increasing, the regular full-time working hours of labor per week were almost as consistently decreasing. The year 1932 has continued the decrease in hours, the average decrease being seven-tenths of an hour or 1.7 per cent. The average full-time hours in 1931 were 43.6 and in 1932, 42.9. In the earlier years the decrease in hours was brought about mainly by reductions in trades working more than eight hours per day and six days per week. Later the reduction was due to the increasing prevalence of the short day on Saturday (making a 5½-day week); at present, reductions are due primarily to the increasing number of trades working a 5-day week. This year the normal decrease is slightly interfered with by the adoption of short-time work for the purpose of spreading employment among union members. In some cases members in individual local unions are limited, by agreement, to less than 5 days' work per week. The building trades, with an average of 40.5 hours for the group, have the shortest full-time working week and indications are that the 5-day week for all building trades is steadily and with increasing pace displacing the 5½-day week for this group. More than four-fifths of the reported membership of the building trades have a regular 5-day working week. Chauffeurs and teamsters and drivers, with an average of 53.2 hours, had the longest working week.

Table 2 shows for 1932 the average full-time working hours per week and the per cent of members in each trade group having specified working hours. The hours stated represent the regular full time per week. No data are available as to the broken time or overtime that may have been worked.

TABLE 2.—AVERAGE FULL-TIME HOURS PER WEEK AND PER CENT OF TRADE-UNION MEMBERS, HAVING EACH CLASSIFIED NUMBER OF FULL-TIME HOURS PER WEEK, MAY 15, 1932, BY TRADE GROUPS

Trade group	Average hours per full-time week	Per cent of members whose hours per week were—										
		Under 40	40	Over 40 and under 44	44	Over 44 and under 48	48	Over 48 and under 54	54	Over 54 and under 60	60	Over 60
Bakers	47.7	.....	.....	0.4	.....	20.7	69.7	6.5	2.7	.....	.....	.....
Building trades	40.5	0.8	84.9	.....	13.7	.3	.2	.....	.1	.....	.....	.....
Chauffeurs and teamsters and drivers	53.2	.1	.1	.5	.3	7.3	23.4	9.8	24.4	15.3	13.3	5.4
Granite and stone trades	41.3	.....	66.6	.....	33.3	.....	.....	.1	.....	.....	.....	.....
Laundry workers	48.0	.....	.....	.....	.....	.....	100.0	.....	.....	.....	.....	.....
Linemen	43.5	1.2	34.3	.5	39.0	3.3	19.9	1.7	.....	.....	.....	.....
Longshoremen	44.7	.....	.....	.....	89.1	.....	9.1	.....	.....	.....	1.8	.....
Printing and publishing:												
Book and job	42.6	12.9	6.6	.2	74.3	.2	5.9	.....	.....	.....	.....	.....
Newspaper	43.9	15.8	2.6	10.7	9.4	37.7	23.7	.....	.....	.....	.....	.....
Average	42.9	2.5	54.7	.6	22.7	3.3	7.4	1.3	3.1	1.9	1.7	.7

Trend of Union Wage Rates and Hours, 1907 to 1932

THE average hourly union wage rate on May 15, 1932, was lower by 11.4 per cent than it was on the same date in 1931; however, it was 111.9 per cent higher than in 1917, 141.8 per cent higher than in 1913, 156.1 per cent higher than in 1910, and 169.6 per cent higher than in 1907.

On the weekly basis, the rates in 1932 were 12.6 per cent lower than in 1931, 88.8 per cent higher than in 1917, 112.2 per cent higher than in 1913, 122.9 per cent higher than in 1910, and 131.8 per cent higher than in 1907. Because of reductions in hours of labor, weekly rates have not changed to the same extent as hourly rates. In 1932 the regular weekly hours of labor were 1.7 per cent lower than in 1931, 10.9 per cent lower than in 1917, 12.3 per cent lower than in 1913, 13.3 per cent lower than in 1910, 14.5 per cent lower than in 1907.

The index numbers shown in Table 3 are computed on the basis of 1913 as 100. These indexes include all the time-work trades and all cities covered in preceding years, but the number of trades and cities included in the data has varied to some degree during the period.

An inspection of these index numbers indicates that the hours per full-time week are less than in any previous year since 1907, and that the average rate per hour is somewhat more than the average rate in 1925 but under the rate of 1926.

TABLE 3.—INDEX NUMBERS OF UNION WAGE RATES AND HOURS OF LABOR IN THE UNITED STATES AS OF MAY EACH YEAR, 1907 TO 1932

[1913=100]

Year	Index numbers of—			Year	Index numbers of—		
	Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week		Rate of wages per hour	Hours per full-time week	Rate of wages per full-time week
1907	89.7	102.6	91.5	1920	199.0	93.8	188.5
1908	91.0	102.1	92.5	1921	205.3	93.9	193.3
1909	91.9	101.9	93.3	1922	193.1	94.4	183.0
1910	94.4	101.1	95.2	1923	210.6	94.3	198.6
1911	96.0	100.7	96.5	1924	228.1	93.9	214.3
1912	97.6	100.3	97.7	1925	237.9	93.0	222.3
1913	100.0	100.0	100.0	1926	250.3	92.8	233.4
1914	101.9	99.6	101.6	1927	259.5	92.4	240.8
1915	102.8	99.4	102.3	1928	260.6	91.9	240.6
1916	107.2	98.8	106.2	1929	262.1	91.5	240.7
1917	114.2	98.4	112.4	1930	272.1	89.8	243.8
1918	132.7	97.0	129.6	1931	273.0	89.2	242.9
1919	154.5	94.7	147.8	1932	241.8	87.7	212.2

Because of the wide interest in building operations and the resultant inquiries to the bureau for wage changes in building trades as a group, the data for these trades are given below.

Index numbers of union wage rates per hour in the building trades

	Index number		Index number
1913	100.0	1923	207.3
1914	101.9	1924	224.0
1915	102.8	1925	232.7
1916	106.2	1926	248.0
1917	112.8	1927	256.7
1918	125.2	1928	258.1
1919	145.4	1929	261.6
1920	196.8	1930	272.8
1921	200.3	1931	276.3
1922	187.5	1932	235.3

Table 4 shows the average union wage rates per hour, average full-time working hours per week, the number of returns on which 1932 averages are based, and index numbers of hourly rates for the years 1927 to 1932. The index numbers for the years back to 1907 may be found in Bulletin No. 482 of this bureau, but are omitted here for want of space. For some trades data were not collected as early as 1913, hence there can be no index numbers for them on a 1913 base.

In computing an average rate, each rate quoted is multiplied by the number of union members having such rate. The products are added and the sum divided by the grand total membership; in other words, the rates are weighted by the number of union members. This membership is furnished the bureau for this sole purpose and is held strictly confidential.

The rates for a city may enter into an average one year because the trade has an effective wage scale, but may drop out the next year because the trade can not enforce its scale or because the union has disbanded. Also, the membership fluctuations in high or low rate cities have an important bearing on this weighted average rate. The grand average rate may, possibly, vary to a greater extent than the rate in any city reporting for both years or it may show a decrease while the individual rates composing it may show no change and some increases. This year the fluctuations in rates and in membership have been unusually severe, producing paradoxes in the average rates for several occupations. The index numbers are computed from these averages, and are, of course, affected by these same influences.

In Table 4 hourly rates only are considered. Equivalent weekly rates do not exactly parallel hourly rates because of changes in working hours.

TABLE 4.—AVERAGE WAGE RATES PER HOUR, 1931 AND 1932, AVERAGE FULL-TIME HOURS PER WEEK, 1932, AND INDEX NUMBERS OF HOURLY RATES FOR SELECTED YEARS

Trade	Number of quotations, May, 1932	Average rate of wages per hour		Index numbers of rates of wages per hour (1913=100.0)						Average hours per week, May, 1932
		May, 1931	May, 1932	May, 1927	May, 1928	May, 1929	May, 1930	May, 1931	May, 1932	
Bakery trades										
Bakers	240	$0.934	$0.951	286.8	285.9	293.4	289.2	279.9	285.0	47.7
Building trades										
Asbestos workers	39	1.471	1.237	(1)	(1)	(1)	(1)	(1)	(1)	40.5
Bricklayers:										
Building	65	1.700	1.465	231.9	233.9	239.7	245.1	245.9	211.9	39.6
Sewer, tunnel, and caisson	13	2.039	1.522	218.6	214.3	199.5	199.1	212.2	158.4	40.8
Building labor group:										
Building laborers	51	.893	.762	255.8	257.0	258.2	275.3	267.5	228.3	42.0
Hod carriers	41	1.088	.883	280.4	280.7	293.0	302.3	297.3	241.3	40.4
Plasterers' laborers	39	1.128	.910	259.7	264.1	265.0	282.3	274.3	221.3	40.8
Plumbers' laborers	12	1.051	.883	(1)	(1)	(1)	(1)	(1)	(1)	40.1
Carpenters:										
General	65	1.400	1.166	246.7	247.5	252.0	261.6	263.5	219.4	40.6
Millwrights	32	1.349	1.108	(1)	(1)	(1)	(1)	(1)	(1)	41.9
Parquetry-floor layers	27	1.494	1.184	250.2	236.1	241.9	259.5	262.8	208.3	40.5
Ship	11	1.372	1.109	(1)	(1)	(1)	(1)	(1)	(1)	41.3
Wharf and bridge	20	1.383	1.153	(1)	(1)	(1)	(1)	(1)	(1)	40.7
Cement finishers	57	1.475	1.245	236.8	234.6	234.6	256.4	253.3	213.8	41.2
Composition roofers	39	1.432	1.182	(1)	(1)	(1)	(1)	(1)	(1)	40.4
Helpers	4	.782	.730	(1)	(1)	(1)	(1)	(1)	(1)	40.8

[1] No data for 1913.

TABLE 4.—AVERAGE WAGE RATES PER HOUR, 1931 AND 1932, AVERAGE FULL-TIME HOURS PER WEEK, 1932, AND INDEX NUMBERS OF HOURLY RATES FOR SELECTED YEARS—Continued

Trade	Number of quotations, May, 1932	Average rate of wages per hour		Index numbers of rates of wages per hour (1913=100.0)						Average hours per week, May, 1932
		May, 1931	May, 1932	May, 1927	May, 1928	May, 1929	May, 1930	May, 1931	May, 1932	
Building trades—Continued										
Elevator constructors	54	$1.524	$1.409	(1)	(1)	(1)	(1)	(1)	(1)	41.3
Helpers	53	1.098	1.004	(1)	(1)	(1)	(1)	(1)	(1)	41.2
Engineers, portable and hoisting	117	1.608	1.511	224.2	233.5	232.5	259.0	261.4	245.7	41.4
Glaziers	38	1.428	1.211	(1)	(1)	(1)	(1)	(1)	(1)	40.7
Inside wiremen	69	1.506	1.437	254.8	257.2	268.2	271.1	275.1	262.5	40.0
Inside wiremen, fixture hangers	19	1.335	1.276	232.7	235.8	241.8	258.2	257.7	246.3	41.1
Lathers	69	1.565	1.385	250.3	251.0	249.0	259.4	262.6	232.4	40.2
Marble setters	54	1.572	1.432	217.0	218.0	233.4	234.5	235.5	214.6	40.5
Helpers	23	1.026	.931	245.2	248.0	262.8	259.1	254.1	230.6	40.5
Mosaic and terrazzo workers	36	1.466	1.356	(1)	(1)	(1)	(1)	(1)	(1)	39.6
Painters:										
Building	69	1.482	1.228	266.2	270.8	270.2	289.5	292.4	242.3	40.2
Fresco	15	1.456	1.051	245.1	226.7	231.0	253.4	267.3	192.9	41.5
Sign	51	1.573	1.393	247.2	247.5	249.9	249.6	248.3	219.9	41.1
Plasterers	64	1.709	1.423	241.0	241.6	238.6	250.3	253.0	210.6	39.6
Plumbers and gas fitters	68	1.514	1.302	227.2	232.1	233.8	240.0	244.2	210.0	40.4
Sheet-metal workers	48	1.441	1.234	252.2	247.4	256.9	268.5	273.2	234.0	40.5
Slate and tile roofers	19	1.576	1.401	(1)	(1)	(1)	(1)	(1)	(1)	40.6
Steam and sprinkler fitters	82	1.525	1.283	236.2	239.5	241.0	252.2	254.6	214.2	40.2
Helpers	40	1.084	.953	302.8	309.2	305.0	340.5	346.6	304.7	40.1
Stonemasons	56	1.642	1.449	256.0	259.3	266.5	266.4	269.0	237.4	40.3
Structural-iron workers	77	1.564	1.339	235.5	235.7	236.0	248.1	251.6	215.4	40.8
Structural-iron workers, finishers	41	1.598	1.332	228.5	230.2	240.0	257.2	257.1	214.3	40.5
Tile layers	58	1.554	1.350	221.9	221.8	224.2	234.9	237.2	206.1	40.0
Helpers	24	1.047	.923	272.9	278.5	274.3	300.8	291.8	257.3	40.2
Average, building trades	1,759	1.428	1.216	256.7	258.1	261.6	272.8	276.3	235.3	40.5
Chauffeurs and teamsters and drivers										
Chauffeurs	461	.737	.711	242.1	243.2	244.2	249.4	253.9	244.9	53.1
Teamsters and drivers	96	.755	.785	269.1	277.1	279.8	292.0	287.8	299.2	53.6
Average, chauffeurs, etc	557	.740	.722							53.2
Granite and stone trades										
Granite cutters	47	1.344	1.199	242.6	245.3	249.8	262.3	262.5	234.1	41.4
Stone cutters	49	1.524	1.380	241.2	242.2	253.6	256.0	262.6	237.7	41.3
Average, granite and stone trades	96	1.437	1.293							41.3
Miscellaneous trades										
Laundry workers	39	.481	.487	(1)	(1)	(1)	(1)	(1)	(1)	48.0
Linemen	45	1.135	1.091	(1)	(1)	(1)	(1)	(1)	(1)	43.5
Longshoremen	43	.868	.868	236.7	248.6	250.1	253.5	251.5	251.5	44.7
Printing and publishing, book and job										
Bindery women	46	.541	.515	251.5	252.9	254.9	262.1	260.7	248.1	44.6
Bookbinders	83	1.023	.988	216.0	214.8	247.5	250.7	252.7	244.0	44.6
Compositors	68	1.166	1.162	246.6	250.1	251.5	259.3	260.2	259.3	43.8
Electrotypers	60	1.315	1.307	255.2	257.1	263.2	269.9	274.5	272.8	44.5
Machine operators	68	1.192	1.251	223.0	224.6	228.0	238.0	228.8	240.1	43.9
Machine tenders (machinists)	33	1.218	1.279	227.1	216.8	219.9	233.2	224.2	235.4	43.9
Photo-engravers	49	1.329	1.371	(1)	(1)	(1)	(1)	(1)	(1)	41.8
Press assistants and feeders	148	.880	.852	285.3	287.0	289.7	294.8	299.9	290.4	39.0
Pressmen, cylinder	155	1.161	1.147	230.9	232.7	236.8	240.1	239.1	236.2	40.5
Pressmen, platen	115	.948	.911	258.3	253.9	257.8	259.9	260.2	250.1	43.4
Average, book and job	825	1.068	1.084							42.6

[1] No data for 1913.

TABLE 4.—AVERAGE WAGE RATES PER HOUR, 1931 AND 1932, AVERAGE FULL-TIME HOURS PER WEEK, 1932, AND INDEX NUMBERS OF HOURLY RATES FOR SELECTED YEARS—Continued

Trade	Number of quotations, May, 1932	Average rate of wages per hour		Index numbers of rates of wages per hour (1913=100.0)						Average hours per week, May, 1932
		May, 1931	May, 1932	May, 1927	May, 1928	May, 1929	May, 1930	May, 1931	May, 1932	
Printing and publishing, newspaper										
Compositors:										
Daywork	82	$1.210	$1.164	201.8	206.6	211.3	212.5	212.5	204.5	44.2
Nightwork	79	1.311	1.283	199.7	203.0	205.3	203.6	203.0	198.7	43.8
Machine operators, daywork:										
Piecework	9	[2].147	[2].149	134.9	138.5	124.1	130.4	132.2	134.0	43.1
Timework	79	1.239	1.206	208.9	213.8	217.4	216.7	220.0	214.2	44.0
Machine operators, nightwork:										
Piecework	9	[2].167	[2].167	112.3	108.1	103.2	109.5	117.2	117.2	44.1
Timework	75	1.339	1.335	196.9	205.9	207.5	207.0	207.9	207.3	42.6
Machine tenders (machinists):										
Daywork	70	1.204	1.233	194.5	198.4	201.7	205.1	204.7	209.7	42.5
Nightwork	58	1.332	1.380	187.1	190.8	196.6	191.9	195.5	202.5	41.0
Photo-engravers:										
Daywork	42	1.354	1.347	[1]	[1]	[1]	[1]	[1]	[1]	43.9
Nightwork	39	1.653	1.652	[1]	[1]	[1]	[1]	[1]	[1]	41.7
Pressmen, web presses:										
Daywork	123	1.104	1.122	223.3	224.9	228.1	229.3	231.2	235.0	45.9
Nightwork	110	1.292	1.306	209.7	215.7	216.1	218.7	222.1	224.5	41.5
Stereotypers:										
Daywork	61	1.063	1.075	191.0	191.0	200.1	201.8	201.6	203.9	46.5
Nightwork	57	1.241	1.227	188.4	188.6	198.3	202.8	204.9	202.6	42.7
Average, newspaper	893	1.247	1.231	------	------	------	------	------	------	43.9
Grand average	4,497	1.254	1.111	259.5	260.6	262.1	272.1	273.0	241.8	42.9

[1] No data for 1913.

[2] Per 1000 ems.

Table 5 shows the per cent of change in weekly wage rates in 1932 as compared with specified years, beginning with 1907, the earliest year for which data are available. For lack of space certain years since 1907 are omitted.

In 30 of the 34 trade classifications for which data reach back that far weekly rates more than doubled between 1907 and 1932, 2 classifications more than trebled, and 2 classifications were only slightly less than twice as much.

Comparing 1932 wages per full-time week with those of 1931, the changes noted in individual trades are as follows: The bakers' wage rate shows an increase of 2.2 per cent. Of the 39 individual building trades, the average rates showed decreases for all of them, ranging from 4.6 to 27.6 per cent; 7 showed decreases under 10 per cent, 8 decreased from 10 to 15 per cent, 19 decreased from 15 to 20 per cent and 5 decreased over 20 per cent. The chauffeurs' rates decreased 3.4 per cent and the teamsters and drivers', 1.9 per cent. The granite cutters decreased 10.4 per cent and the stone cutters 10.6 per cent. The laundry workers showed a slight increase of 1.3 per cent, the linemen a decrease of 5.8 per cent, and the longshoremen a decrease of five-tenths of 1 per cent. In the book and job printing and publishing trades, of the 10 classifications shown, two increased, viz, machine operators 5.0 per cent and machine tenders 4.5 per cent; the other 8 decreased in rates ranging from five-tenths of 1 per cent for electrotypers to 16.1 per cent for press assistants and feeders. In the 12 newspaper printing trade classifications two showed slight

increases and the others decreased in the average rate, ranging from two-tenths of 1 per cent for photo-engravers, daywork, to 5.9 per cent for machine operators, nightwork.

TABLE 5.—PER CENT OF CHANGE IN RATES OF WAGES PER FULL-TIME WEEK IN 1932 AS COMPARED WITH SPECIFIED PRECEDING YEARS

Trade and occupation	Per cent of increase (+) or decrease (−) in rates of wages per full-time week in 1932 as compared with—									
	1907	1913	1917	1919	1921	1923	1925	1927	1929	1931
Bakery trades										
Bakers	+201.3	+156.4	+124.5	+48.8	+3.1	+3.7	−2.0	−0.6	−1.5	+2.2
Building trades										
Asbestos workers	(1)	(1)	+93.0	+44.0	+9.6	+13.2	−2.5	−13.1	−16.7	−16.6
Bricklayers:										
Building	+94.5	+87.8	+76.6	+48.2	+10.1	−.5	−10.8	−17.5	−17.8	−16.7
Sewer, tunnel, and caisson	(1)	+47.5	+42.7	+30.2	−3.7	−7.5	−21.1	−31.7	−25.1	−27.6
Building labor group:										
Building laborers	+112.5	+98.6	+78.0	+36.7	−5.3	−1.2	−6.7	−15.9	−16.6	−16.5
Hod carriers	+125.9	+119.4	+88.0	+38.1	−7.0	+2.4	−12.0	−21.2	−19.8	−20.4
Plasterers' laborers	+121.4	+102.8	+82.6	+39.4	−6.0	−2.9	−15.2	−17.4	−19.4	−19.6
Plumbers' laborers	(1)	(1)	(1)	+28.8	−5.6	−9.5	−16.5	−17.5	−22.8	−15.8
Carpenters:										
General	+117.4	+99.4	+73.9	+39.0	+2.5	−1.1	−9.5	−18.2	−19.4	−19.0
Millwrights	(1)	(1)	+55.7	+20.1	−6.5	−10.1	−10.8	−24.3	−13.6	−20.4
Parquetry-floor layers	(1)	+81.1	+55.5	+28.0	−12.5	−13.0	−10.2	−23.0	−20.2	−20.3
Wharf and bridge	(1)	(1)	+85.3	+57.9	+8.2	+7.0	−9.3	−19.1	−17.5	−17.9
Ship	(1)	(1)	+68.7	+25.4	+13.0	+9.8	+16.8	+20.4	−6.7	−18.3
Cement finishers	+105.5	+90.6	+79.4	+46.7	+5.2	+3.9	−6.5	−15.8	−14.5	−17.1
Composition roofers	(1)	(1)	+99.0	+58.5	+7.3	+4.7	−7.3	−17.0	−19.8	−19.5
Helpers	(1)	(1)	+63.9	+35.6	−3.4	−2.9	−11.1	−9.9	−14.1	−7.8
Elevator constructors	(1)	(1)	+95.8	+59.2	+17.3	+18.2	+.6	−7.9	−8.7	−8.5
Helpers	(1)	(1)	+116.6	+68.7	+15.9	+16.1	+.7	−9.4	−9.7	−9.5
Engineers, portable and hoisting	(1)	+117.2	+104.8	+67.6	+27.3	+23.5	+10.8	−.7	−2.9	−8.8
Glaziers	(1)	(1)	(1)	+60.9	+13.6	+7.2	−8.3	−15.8	−16.9	−16.6
Inside wiremen	+157.8	+131.4	+106.8	+63.6	+18.2	+21.1	+2.8	−6.2	−8.0	−7.4
Inside wiremen, fixture hangers	(1)	+120.4	+92.8	+59.0	+13.5	+11.7	+3.7	−1.0	−4.0	−4.6
Lathers	(1)	+107.9	+91.1	+59.9	+10.7	+6.3	−9.5	−14.3	−12.9	−11.9
Marble setters	+113.8	+95.5	+91.4	+64.5	+22.7	+10.8	+3.8	−9.1	−15.5	−9.9
Helpers	(1)	+111.7	+98.2	+66.1	−1.6	−2.1	−4.8	−13.5	−19.3	−10.5
Mosaic and terrazzo workers	(1)	(1)	+111.3	+88.4	+24.2	+24.8	+.5	−5.2	−13.7	−11.3
Painters:										
Building	+149.5	+117.6	+87.7	+46.1	+7.4	+4.1	−6.7	−13.9	−12.4	−17.3
Fresco	(1)	+81.9	+56.9	+29.2	−4.7	−5.0	−11.1	−21.4	−16.3	−26.2
Sign	(1)	+101.9	+90.6	+45.3	+4.3	−.5	−11.8	−14.0	−13.4	−11.4
Plasterers	+94.1	+86.7	+76.6	+45.5	+5.9	−1.7	−13.3	−18.0	−15.8	−18.4
Plumbers and gas fitters	+108.9	+89.1	+79.3	+44.7	+6.5	+3.9	−6.7	−15.1	−16.6	−15.1
Sheet-metal workers	+139.4	+108.9	+88.9	+47.9	+5.9	+6.1	−6.5	−14.8	−16.1	−16.5
Slate and tile roofers	(1)	(1)	+97.8	+59.3	+12.3	+5.5	−9.0	−15.9	−16.0	−11.4
Steam and sprinkler fitters	+117.8	+90.4	+75.1	+44.0	+14.2	+11.4	−7.8	−17.0	−18.2	−18.4
Helpers	+221.8	+172.7	+142.6	+77.2	+26.3	+15.8	+1.5	−8.2	−8.6	−12.2
Stonemasons	+126.5	+114.2	+96.1	+60.6	+12.1	+1.9	−5.5	−15.2	−15.8	−12.3
Structural-iron workers	+118.5	+96.7	+80.3	+39.6	+8.2	+11.6	−2.6	−15.5	−15.2	−16.6
Structural-iron workers, finishers	(1)	+97.3	+81.9	−44.1	+7.6	+12.8	+.3	−13.8	−17.6	−18.7
Tile layers	(1)	+84.1	+73.6	+55.1	+15.9	+7.8	−7.3	−15.4	−15.9	−15.0
Helpers	(1)	+129.5	+112.2	+71.0	+2.2	+5.7	−5.6	−13.9	−14.0	−14.3
Chauffeurs and teamsters and drivers										
Chauffeurs	(1)	+96.9	+80.4	+35.3	+12.9	+13.6	+2.3	−1.7	−1.1	−3.4
Teamsters and drivers	(1)	+157.7	+129.4	+63.5	+29.2	+27.8	+15.5	+7.3	+4.1	−1.9
Granite and stone trades										
Granite cutters	+138.5	+119.6	+101.6	+43.3	+5.6	+4.0	+1.6	−9.2	−11.6	−10.4
Stone cutters	+127.5	+119.0	+98.8	+58.2	+17.0	+11.9	−.3	−8.0	−12.4	−10.6
Miscellaneous										
Laundry workers	(1)	(1)	+94.6	+50.0	+17.2	+17.4	+9.7	+13.1	+6.3	+1.3
Linemen	(1)	(1)	(1)	(1)	+9.3	+13.2	+8.8	+4.0	+.4	−5.8
Longshoremen	(1)	+90.4	+60.0	+27.7	+5.2	+10.9	+2.1	+5.9	+.2	−.5

[1] Not reported.

TABLE 5.—PER CENT OF CHANGE IN RATES OF WAGES PER FULL-TIME WEEK IN 1932 AS COMPARED WITH SPECIFIED PRECEDING YEARS—Continued

Trade and occupation	Per cent of increase (+) or decrease (−) in rates of wages per full-time week in 1932 as compared with—									
	1907	1913	1917	1919	1921	1923	1925	1927	1929	1931
Printing and publishing, book and job										
Bindery women	(1)	(1)	+114.6	+48.6	+0.6	+1.1	−1.4	−1.5	−2.9	−4.8
Bookbinders	+142.4	+126.2	+109.0	+45.9	+8.9	+8.4	+2.6	−.9	−1.9	−3.7
Compositors	+167.1	+137.3	+121.1	+63.8	+15.0	+13.5	+8.8	+4.8	+2.7	−.6
Electrotypers	+188.6	+159.7	+129.6	+90.6	+20.5	+11.7	+7.3	+5.0	+2.1	−.5
Machine operators	+140.4	+121.0	+112.0	+61.5	+19.3	+17.6	+13.0	+7.5	+5.1	+5.0
Machine tenders (machinists)	(1)	+116.1	+108.6	+54.6	+18.1	+17.3	+11.7	+3.6	+6.9	+4.5
Photo-engravers	(1)	(1)	+111.6	+71.7	+26.8	+24.5	+13.3	+1.8	−2.4	−2.1
Press assistants and feeders	+158.0	+131.1	+109.8	+39.6	+.6	−6.0	−10.0	−12.0	−13.2	−16.1
Pressmen:										
Cylinder	+122.0	+95.9	+85.2	+38.4	+1.5	−2.2	−5.9	−7.7	−9.9	−10.9
Platen	+144.7	+124.1	+105.1	+51.8	+2.6	+2.5	−1.2	−5.8	−5.9	−6.7
Printing and publishing, newspaper										
Compositors:										
Daywork	+120.1	+97.4	+88.7	+50.7	+13.2	+10.0	+2.2	−1.6	−4.9	−5.7
Nightwork	+104.5	+90.6	+84.1	+46.3	+11.2	+5.6	+1.7	−3.9	−6.1	−5.6
Machine operators:										
Daywork	+124.2	+104.9	+95.3	+54.1	+17.7	+11.6	+4.6	−.3	−4.0	−5.3
Nightwork	+107.7	+94.7	+86.7	+47.7	+14.6	+8.8	+3.0	−.8	−5.8	−5.9
Machine tenders (machinists):										
Daywork	(1)	+93.4	+88.8	+40.4	+8.6	+6.5	+4.1	−.5	−3.5	−4.6
Nightwork	(1)	+80.5	+77.0	+33.8	+5.6	+3.7	+.9	−2.9	−7.6	−6.4
Photo-engravers:										
Daywork	(1)	(1)	+108.9	+69.2	+27.1	+23.2	+14.1	+6.2	−.2	−.2
Nightwork	(1)	(1)	+124.3	+75.2	+34.4	+26.6	+18.8	+6.8	+3.9	+.5
Pressmen, web presses:										
Daywork	+156.4	+128.4	+118.9	+66.7	+24.0	+22.7	+10.2	+3.0	+1.0	−.3
Nightwork	+139.3	+127.9	+120.8	+64.6	+24.4	+22.7	+10.2	+4.6	+1.4	−1.2
Stereotypers:										
Daywork	+127.3	+99.1	+89.9	+62.2	+17.4	+14.3	+8.5	+5.6	+1.4	+.4
Nightwork	+119.3	+99.8	+91.4	+63.2	+16.9	+13.5	+8.7	+6.4	+1.2	−.4

[1] Not reported.

Wage-Rate Changes in American Industries

Manufacturing Industries

DATA concerning wage-rate changes occurring between August 15 and September 15 in 89 manufacturing industries included in the monthly trend-of-employment survey of the Bureau of Labor Statistics are presented in the following table.

Of the 18,165 manufacturing establishments furnishing employment data in September, 17,869 establishments, or 98.4 per cent of the total, reported no change in wage rates during the month ending September 15, 1932. The employees whose wage rates were reported unchanged over the month interval totaled 2,572,009, comprising 98.1 per cent of the total number of employees included in this survey of manufacturing industries.

Decreases in rates of wages were reported by 277 establishments, or 1.5 per cent of the total number of establishments reporting. These decreases, averaging 10.4 per cent, affected 45,091 employees or 1.7 per cent of all employees in the establishments reporting.

Nineteen establishments in five industries reported wage-rate increases averaging 9.7 per cent and affecting 3,767 employees.

TABLE 1.—WAGE CHANGES IN MANUFACTURING INDUSTRIES DURING MONTH ENDING SEPTEMBER 15, 1932

Industry	Establishments reporting	Total number of employees	Number of establishments reporting—			Number of employees having—		
			No wage changes	Wage increases	Wage decreases	No wage changes	Wage increases	Wage decreases
All manufacturing industries	18,165	2,620,867	17,869	19	277	2,572,009	3,767	45,091
Per cent of total	100.0	100.0	98.4	0.1	1.5	98.1	0.1	1.7
Slaughtering and meat packing	229	83,413	224		5	83,161		252
Confectionery	326	39,576	323		3	39,443		133
Ice cream	405	13,031	399		6	12,877		154
Flour	439	16,342	434		5	16,151		191
Baking	976	63,152	973		3	63,086		66
Sugar refining, cane	15	8,226	15			8,226		
Beet sugar	59	5,404	49		10	4,819		585
Beverages	342	10,602	334		8	10,267		335
Butter	328	6,204	322		6	6,102		102
Cotton goods	694	226,089	672	4	18	218,063	989	7,037
Hosiery and knit goods	445	101,351	432	9	4	98,800	2,354	197
Silk goods	247	45,738	243	2	2	45,163	320	255
Woolen and worsted goods	253	59,013	250		3	58,245		768
Carpets and rugs	30	12,281	30			12,281		
Dyeing and finishing textiles	148	33,857	143		5	32,756		1,101
Clothing, men's	358	61,108	352	1	5	60,338	12	758
Shirts and collars	109	13,791	105		4	13,285		506
Clothing, women's	363	25,040	360		3	24,771		269
Millinery	128	9,686	127		1	9,461		225
Corsets and allied garments	32	5,403	31		1	5,397		6
Cotton small wares	114	8,814	113		1	8,801		13
Hats, fur-felt	38	6,146	38			6,146		
Men's furnishings	73	5,430	73			5,430		
Iron and steel	214	169,518	211		3	167,923		1,595
Cast-iron pipe	40	5,261	40			5,261		
Structural and ornamental iron-work	189	14,700	186		3	13,433		1,267
Hardware	110	20,374	104		6	19,816		558
Steam fittings and steam and hot-water heating apparatus	102	13,870	100		2	13,713		157
Stoves	157	15,540	155		2	15,403		137
Bolts, nuts, washers, and rivets	67	8,230	67			8,230		
Cutlery (not including silver and plated cutlery) and edge tools	129	8,945	128		1	8,928		17
Forgings, iron and steel	60	4,953	59		1	4,944		9
Plumbers' supplies	72	5,839	69		3	5,745		94
Tin cans and other tinware	59	9,302	58		1	9,263		39
Tools (not including edge tools, machine tools, files, or saws)	130	6,581	128		2	6,541		40
Wirework	70	5,256	70			5,256		
Lumber:								
Sawmills	620	57,731	616		4	57,262		469
Millwork	464	16,885	459		5	16,418		467
Furniture	479	43,557	466		13	42,563		994
Turpentine and rosin	22	1,019	22			1,019		
Leather	166	23,897	161		5	23,239		658
Boots and shoes	327	103,126	320		7	102,317		809
Paper and pulp	400	78,409	392		8	75,954		2,455
Paper boxes	310	19,781	307		3	19,628		153
Printing:								
Book and job	756	48,529	742		14	48,024		505
Newspaper and periodicals	469	68,392	463		6	67,974		418
Chemicals	116	19,740	116			19,740		
Fertilizers	206	5,925	204		2	5,832		93
Petroleum refining	120	46,555	120			46,555		
Cottonseed, oil, cake, and meal	52	2,546	52			2,546		
Druggists preparations	41	7,313	39		2	7,214		99
Explosives	24	2,867	24			2,867		
Paints and varnishes	362	14,835	360		2	14,797		38
Rayon	22	25,405	21		1	25,005		400
Soap	89	12,218	89			12,218		
Cement	125	14,294	125			14,294		
Brick, tile, and terra cotta	684	19,705	674	3	7	19,390	92	223
Pottery	123	13,537	115		8	11,753		1,784
Glass	196	32,332	183		13	30,599		1,733
Marble, granite, slate, and other stone products	220	6,017	219		1	5,973		44
Stamped and enameled ware	89	12,746	89			12,746		
Brass, bronze and copper products	203	26,212	195		8	25,876		336
Aluminum manufactures	26	4,875	26			4,875		
Clocks, time recording devices, and clock movements	23	3,806	22		1	3,752		54

TABLE 1.—WAGE CHANGES IN MANUFACTURING INDUSTRIES DURING MONTH ENDING SEPTEMBER 15, 1932—Continued

Industry	Establishments reporting	Total number of employees	Number of establishments reporting			Number of employees having—		
			No wage changes	Wage increases	Wage decreases	No wage changes	Wage increases	Wage decreases
Gas and electric fixtures, lamps, lanterns, and reflectors	53	4,620	51		2	4,568		52
Plated ware	54	7,326	54			7,326		
Smelting and refining—copper, lead, and zinc	28	7,292	28			7,292		
Jewelry	147	8,690	145		2	8,565		125
Chewing and smoking tobacco and snuff	32	9,941	32			9,941		
Cigars and cigarettes	210	45,570	207		3	44,854		716
Automobiles	243	176,016	238		5	* 174,235		1,781
Aircraft	30	5,210	29		1	5,112		98
Cars, electric and steam railroad	39	5,270	39			5,270		
Locomotives	11	2,186	11			2,186		
Shipbuilding	93	26,018	93			26,018		
Rubber tires and inner tubes	44	43,199	43		1	33,001		10,198
Rubber boots and shoes	9	9,097	9			9,097		
Rubber goods, other than boots, shoes, tires, and inner tubes	97	17,892	96		1	17,817		75
Agricultural implements	78	5,369	76		2	5,217		152
Electrical machinery, apparatus, and supplies	294	107,471	290		4	107,359		112
Engines, turbines, tractors, and water wheels	88	15,111	88			15,111		
Cass registers, adding machines and calculating machines	45	13,171	43		2	13,064		107
Foundry and machine-shop products	1,095	97,929	1,079		16	95,988		1,941
Machine tools	154	10,484	150		4	10,008		476
Textile machinery and parts	41	6,265	41			6,265		
Typewriters and supplies	18	8,639	18			8,639		
Radio	42	17,621	41		1	17,393		228
Electric, railroad, repair shops	399	20,938	393		6	20,506		432
Steam, railroad repair shops	537	69,222	537			69,222		

Nonmanufacturing Industries

IN THE following table are presented data concerning wage-rate changes occurring between August 15 and September 15, 1932, reported by firms in 14 nonmanufacturing groups included in the bureau's monthly employment survey.

No changes in wage-rates over the month interval were reported by firms in the anthracite and metalliferous mining groups. In each of the remaining 12 groups a number of establishments reported decreases in wage rates. In eight of these groups (electric railroads, wholesale trade, power and light, laundries, telephone and telegraph, dyeing and cleaning, crude petroleum producing, and hotels) the average per cent of decrease in wage-rates ranged from 7.9 per cent to 11.3 per cent. The average per cent of disease reported in the remaining groups was: 13.0 per cent in retail trade; 16.4 per cent in quarrying and nonmetallic mining; 16.6 per cent in canning and preserving; and 20.7 per cent in bituminous coal mining. An increase in wage-rates from August to September averaging 10 per cent was reported by one establishment in the retail trade group, and one establishment in the metalliferous mining group reported an increase of 33.3 per cent in wage-rates affecting 26 employees.

TABLE 2.—WAGE CHANGES IN **NONMANUFACTURING INDUSTRIES** DURING MONTH ENDING SEPTEMBER 15, 1932

Industrial group	Establishments reporting	Total number of employees	Number of establishments reporting—			Number of employees having—		
			No wage changes	Wage increases	Wage decreases	No wage changes	Wage increases	Wage decreases
Anthracite mining	160	73,361	160	----	----	76,361	----	----
Per cent of total	100.0	100.0	100.0	----	----	100.0	----	----
Bituminous coal mining	1,136	154,296	1,112	----	24	151,976	----	2,320
Per cent of total	100.0	100.0	97.9	----	2.1	98.5	----	1.5
Metalliferous mining	256	18,840	255	1	----	18,814	26	----
Per cent of total	100.0	100.0	99.6	0.4	----	99.9	0.1	----
Quarrying and nonmetallic mining	642	24,436	637	----	5	24,301	----	135
Per cent of total	100.0	100.0	99.2	----	0.8	99.4	----	0.6
Crude petroleum producing	274	21,190	270	----	4	19,785	----	1,405
Per cent of total	100.0	100.0	98.5	----	1.5	93.4	----	6.6
Telephone and telegraph	8,270	274,220	8,262	----	8	274,142	----	78
Per cent of total	100.0	100.0	99.9	----	0.1	100.0	----	(1)
Power and light	3,563	217,549	3,419	----	144	210,695	----	6,854
Per cent of total	100.0	100.0	96.0	----	4.0	96.8	----	3.2
Electric railroad and motor bus operation and maintenance	499	134,347	458	----	41	129,108	----	5,239
Per cent of total	100.0	100.0	91.8	----	8.2	96.1	----	3.9
Wholesale trade	2,720	70,609	2,711	----	9	70,492	----	117
Per cent of total	100.0	100.0	99.7	----	0.3	99.8	----	0.2
Retail trade	14,233	333,978	14,087	1	145	333,750	14	214
Per cent of total	100.0	100.0	99.0	(1)	1.0	99.9	(1)	0.1
Hotels	2,590	138,610	2,576	----	14	138,275	----	335
Per cent of total	100.0	100.0	99.5	----	0.5	99.8	----	0.2
Canning and preserving	941	89,706	937	----	4	89,145	----	561
Per cent of total	100.0	100.0	99.6	----	0.4	99.4	----	0.6
Laundries	1,023	61,315	1,000	----	23	59,711	----	1,604
Per cent of total	100.0	100.0	97.8	----	2.2	97.4	----	2.6
Dyeing and cleaning	379	12,382	377	----	2	12,341	----	41
Per cent of total	100.0	100.0	99.5	----	0.5	99.7	----	0.3

[1] Less than one-tenth of 1 per cent.

Wage Changes Reported by Trade-Unions and Municipalities Since July, 1932

THE changes in the wages and hours of trade-unionists and municipal employees, reported to the bureau during the past month and covering the months July to October, appear in the table following. There were 31,778 workers affected by these reports, of whom 104 were reported to have gone on the 5-day week. In addition to those reporting changes in their wage scales, there were about 800 cleaners, dyers, and pressers in Los Angeles, Calif., upholsterers in Newark, N. J., and motion-picture operators in Los Angeles, Calif., reporting a renewal of wage agreements.

RECENT WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, JULY TO OCTOBER, 1932

Industry or occupation and locality	Date of change	Rate of wages		Hours per week	
		Before change	After change	Before change	After change
Barbers:		*Per week*	*Per week*		
Brooklyn, N. Y.	July 21	$35.00	$32.00	[1]	[1]
Yonkers, N. Y.	do	35.00	30.00	55	55
Building trades:					
Carpenters—		*Per hour*	*Per hour*		
Hannibal, Mo., and vicinity	Sept. 2	$0.90	$0.75	44	44
Mount Vernon, N. Y.	July 27	1.50	1.40	40	40
Cement finishers—					
Indianapolis, Ind.	July 1	.94	1.00	44	44
Louisville, Ky.	do	1.00	1.00	44	40
Electrical workers—					
Bakersfield, Calif.	do	1.12½	1.12½	40	30
York, Pa.	July 15	1.00	.93½	44	40
Elevator constructors—					
Houston, Tex., and vicinity	Sept. 23	1.40	1.40	44	40
Helpers	do	.98	.98	44	40
Spokane, Wash.	July 1	1.17	1.01	44	44
Helpers	do	.82	.71	44	44
Engineers, hoisting, Indianapolis, Ind.	do	1.10	1.17	44	44
Lathers, Louisville, Ky.	do	1.37½	1.12½	40	40
Marble setters, Boston, Mass.	do	1.50	1.30	40	40
Painters—					
Cincinnati, Ohio	Oct. 24	1.10	1.15	40	40
New York, N. Y.	Sept. 22	1.65	1.40	40	40
Saginaw, Mich.	July 1	.90	.75	44	44
Plumbers, Houston, Tex.	July 17	1.25	1.00	40	40
Roofers, Newark, N. J., and vicinity—					
Composition roofers	July 1	1.51½	1.28⅛	40	42
Slate and tile roofers	do	1.81¼	1.50	40	40
Steam fitters—					
Houston, Tex.	July 17	1.25	1.00	40	40
Indianapolis, Ind.	July 1	1.25	1.32½	40	40
Washington, D. C.	do	1.50	1.29	40	40
Structural-iron workers—					
Indianapolis, Ind.	do	1.16	1.23¼	44	44
Louisville, Ky.	do	1.25	1.00	44	44
Rodmen	do	1.00	.80	44	44
Clothing workers:		*Per week*	*Per week*		
Shoe cutters, Brockton, Mass.	Sept. 6	$37.00	$34.56	48	48
Tailors, Washington, D. C.	Sept. 15	[2] 41.76	35.50	48	48
Hotel and restaurant workers:					
Detroit, Mich., waiters and waitresses	Aug. 1	15.00	12.00	[3] 8	[3] 9
Laundry workers:					
San Francisco, Calif., and vicinity	Aug. 27	[2] 19.00–35.00	17.10–31.50	48	48
Seattle, Wash.	Aug. 9	[4] 17.25	[4] 15.00	48	48
Metal-trades workers:		*Per hour*	*Per hour*		
Boilermakers, Indianapolis, Ind.	July 1	$1.10	$1.17	44	44
Helpers	do	.90	.95	44	44
Machinists—					
Winston-Salem, N. C.	do	.80	.72	54	38
York, Ala.	July 26	.73	.65⅞o	44	40
Molders—		*Per day*	*Per day*		
St. Louis, Mo.	Aug. 22	$7.50	$6.50	48	48
Salem, Ohio	Sept. 23	6.75	5.90	[3] 8	[3] 8
Stove mounters, Geneva, N. Y.	Sept. 2	*Per hour* $1.00	*Per hour* $0.60	48	40
Miners:		*Per day*	*Per day*		
De Soto, Ill.	Aug. 31	$6.00	$5.00	48	48
Knightsville, Ind.	Sept. 10	6.10	4.57½	48	48
Motion-picture operators and theatrical workers:					
Motion-picture operators—		*Per week*	*Per week*		
Trenton, N. J.	July 30	$62.00–$65.00	$50.00	45	45
Worcester, Mass.	Sept. 9	77.00 73.00 70.00	65.00 63.00 61.00	36	36
Musicians—		*Per day*	*Per day*		
Coal City, Ill.	Oct. 3	$6.00	$5.00	20	13
		Per week	*Per week*		
Glens Falls, N. Y.	July 26	$45.00–$60.00	$35.00–$45.00	42	42
Portland, Oreg.	Sept. 5	78.75	70.87	28	28
Providence, R. I.	do	67.00	60.00	42	42
San Antonio, Tex.	Aug. 19	65.00	55.00	42	42

[1] Not reported. [2] Estimated. [3] Hours per day. [4] Minimum.

RECENT WAGE CHANGES, BY INDUSTRY, OCCUPATION, AND LOCALITY, JULY TO OCTOBER, 1932—Continued

Industry or occupation and locality	Date of change	Rate of wages		Hours per week	
		Before change	After change	Before change	After change
Printing and publishing trades:					
Compositors and machine operators—					
Big Spring, Tex.—		*Per week*	*Per week*		
Newspaper, day	Sept. 1	$40.00	$41.00	48	48
Newspaper, night	do	42.00	43.00	48	48
Butte, Mont.—		*Per day*	*Per day*		
Daywork	Aug. 12	$8.00	$6.53⅓	45	42
Nightwork	do	8.50	7.00	45	42
Des Moines, Iowa—		*Per week*	*Per week*		
Newspaper, day	Sept. 1	$48.50	$49.00	48	48
Newspaper, night	do	52.00	52.50	48	48
Shawnee, Okla.—					
Newspaper, day	Sept. 21	40.50	41.00	45	45
Newspaper, night	do	43.50	44.00	45	45
Electrotypers, Dayton, Ohio	Oct. 1	47.00–51.00	47.00–51.00	48	44
Mailers, Butte, Mont	Aug. 12	*Per day* $6.50	*Per day* $5.14	45	42
Photo-engravers, Washington, D. C.—		*Per week*	*Per week*		
Newspaper, day	July 1	$65.00	$58.50	44	44
Newspaper, night	do	70.00	63.00	40	40
Pressmen, Butte, Mont.—		*Per day*	*Per day*		
Daywork	Aug. 12	$7.25	$5.83	45	42
Nightwork	do	7.50	6.07	45	42
Stereotypers—					
Butte, Mont	do	7.75	6.30	45	42
Chicago, Ill.—		*Per week*	*Per week*		
Daywork	Aug. 1	$51.84	$47.00	48	48
Nightwork	do	54.00	49.00	45	45
Cleveland, Ohio—					
Daywork	July 1	51.00	48.50	48	48
Nightwork	do	53.00	50.50	45	45
St. Louis, Mo.—					
Daywork	Aug. 25	51.50	46.35	48	48
Nightwork	do	51.50	46.35	42	42
Street-railway workers:					
Boston, Mass.—		*Per hour*	*Per hour*		
Surface lines, motormen and conductors	July 1	$0.75	$0.685	(3)	(3)
Rapid transit lines—					
Motormen	do	.80	.735	(3)	(3)
Guards	do	.75	.685	(3)	(3)
1-man car and bus operators	do	.85	.785	(3)	(3)
Lawrence, Mass., car and bus operators, barn men, power-house and track men	Aug. 1	*Per week* $35.00	*Per week* $30.00	56	48
Providence, R. I., and vicinity—		*Per hour*	*Per hour*		
Motormen and conductors	do	$0.66	$0.65	[6] 50	[6] 42
1-man car and bus operators	do	.72	.65	[6] 50	[6] 42
Worcester, Mass.—					
Car and bus operators	Sept. 1	.76	.68	48	48
Mechanics	do	.70 / .75	.68	48	48
Window cleaners, Brooklyn, N. Y.	July 1	*Per week* $36.00	*Per week* $34.00	60	46
Municipal employees:					
Alexandria, La., school employees	do	(1)	(7)	(1)	(1)
Astoria, Oreg., school employees	Sept. 19	(1)	(8)	(1)	(1)
Atlanta, Ga	July 1	(1)	(9)	(1)	(1)
Birmingham, Ala., library workers receiving over $100 per month	Sept. 1	(1)	(9)	42	42
Bloomington, Ind., school employees	Oct. 1	(1)	(10)	(1)	(1)
Columbus, Ohio, school employees	Sept. 1	(1)	(11)	(1)	(1)
Fort Worth, Tex., school employees	July 1	(1)	(7)	(1)	(1)
Gary, Ind	do	(1)	(12)	(1)	(1)
Norwood, Ohio, school employees	Sept. 1	*Per year* $1,200–$6,200	(7)	(1)	(1)
Sandusky, Ohio	do	(1)	(7)	(1)	(1)

[1] Not reported.
[3] Hours irregular.
[6] Average.
[7] 10 per cent reduction.
[8] Approximately 10 per cent reduction.
[9] 7½ per cent reduction.
[10] 8⅓ per cent reduction.
[11] 12½ per cent reduction.
[12] 17½ per cent reduction.

Farm Wage and Labor Situation, October 1, 1932

THE farm wage and labor situation in the different geographic divisions of the United States on October 1, 1932, is shown in the following table compiled from a press release issued by the United States Department of Agriculture on October 11.

TABLE 1.—FARM WAGE RATES AND FARM LABOR SUPPLY AND DEMAND, OCTOBER 1, 1932, BY GEOGRAPHIC DIVISIONS

Geographic division	Wage rates				Farm labor supply and demand		
	Per month		Per day		Supply, per cent of normal	Demand, per cent of normal	Supply, per cent of demand
	With board	Without board	With board	Without board			
North Atlantic	$25.23	$41.94	$1.40	$2.00	127.7	69.6	183.5
North Central	19.59	28.98	1.00	1.36	130.7	57.4	227.7
South Atlantic	12.19	18.45	.62	.84	115.4	63.0	183.2
South Central	12.75	18.85	.61	.82	117.1	59.6	196.5
Far Western	27.35	43.26	1.24	1.75	134.7	62.0	217.3
United States	17.29	26.36	.87	1.19	123.6	60.8	203.3

Table 2, compiled from data issued by the Department of Agriculture, shows farm wage rates and index numbers by years from 1928 to 1931, and by quarters from January, 1931, to October, 1932, for the country as a whole.

TABLE 2.—FARM WAGE RATES AND INDEX NUMBERS, BY YEARS, 1928 TO 1931, AND BY QUARTERS, JANUARY, 1931, TO OCTOBER, 1932

Year and month	Average farm wage				Index numbers of farm wages (1910-1914=100)
	Per month		Per day		
	With board	Without board	With board	Without board	
1928	$34.66	$48.65	$1.88	$2.43	169
1929	34.74	49.08	1.88	2.42	170
1930	31.14	44.59	1.65	2.16	152
1931	23.60	35.03	1.22	1.65	116
1931—January	26.03	39.04	1.38	1.87	129
April	25.99	38.37	1.33	1.80	127
July	25.35	37.00	1.29	1.73	123
October	23.31	34.22	1.18	1.59	113
1932—January	19.77	30.53	1.02	1.40	98
April	19.19	29.13	.97	1.35	94
July	18.00	27.10	.89	1.23	87
October	17.29	26.36	.87	1.19	84

Attitude of Cotton Manufacturers Toward Shorter Hours and Higher Wages

IN ITS issue for September 29, 1932, the Daily News Record (New York) states that manufacturers representing about one-third of the spindles of the States of Alabama had petitioned the American Cotton Manufacturers' Association to investigate a proposal to bring about shorter working hours by constitutional amendment, and on the following day the same paper carried a report of the annual meeting of this association, at which both the retiring and the incoming presidents declared that the present wage scale in the cotton

industry is too low, and urged that hours should not exceed 48 per week in any locality.

Position of Alabama Manufacturers

THE action of the Alabama manufacturers is probably the more significant, since it developed in a State where long hours are legal and relatively low wages are customary. Its backers are said to be pushing the movement vigorously in the belief that it will inure to the benefit of the farmers, the workers, the individual mills, and the entire industry. One of their leaders points out that at the first sign of an improving market, mills are prepared to start in on a long-week basis, and that overproduction will again bring chaos, and low wage scales will keep the section in want. Wage scales are low partly because the South has been used as a market for "junk machinery requiring such a high rate of man-hours per ton of output that it can not be usefully employed under a decent wage scale. This unfair competition, depending entirely upon exploitation of labor, results in intolerable conditions. * * * Purchasing power in the South amounts to practically nothing among 60 per cent of the inhabitants."

We are prepared to show that a shortening of hours will result in 10 per cent less cotton being raised. We can prove that this means a higher rate of pay for labor. We can prove that this will bring back real-estate values to our industrial centers and will result in the greatest boom in the construction industry that the South has ever had.

We can prove that under these conditions a fair profit can be made by the textile mills which are well managed and have good equipment, and at the same time further opportunity for foisting junk machinery on the South will be eliminated.

We have made a study of the social effects that may be expected, based on excerpts from social investigation of the working of the 48-hour week in countries which have adopted it. * * *

The proposal which we make is nonpartisan, and has as its basis the well-being, both social and economic, of all industries and all workers.

American Cotton Manufacturers' Association

AT THE annual meeting of the association, held in Boston on September 29, 1932, the retiring president urged a 48-hour week for the entire industry, pointing out that the present cotton spindles in place, operating 48 hours weekly, will more than supply the normal demand for textiles.

This, added to the fact that 48 hours is generally considered a reasonable working week, shows the justification of a week no longer than this, if not one of 44 hours, at least until investigation has been made as to what length the working week should be. * * *

The willingness of many to maintain a fair wage scale has been nullified by the actions of those otherwise minded. The present scale is too low and benefits no one—employer, employee, or buyer. Making allowance for sectional permanent advantages, a minimum figure should be set, below which no mill could go.

The incoming president of the association took the same ground, pointing out that at present those who adopted a policy of exploiting labor could force it upon those desirous of maintaining standards.

We all know that the standard of living the country over is being lowered by the ill-advised manufacturing and merchandising policies and the low wages of some concerns in the industry. The pathetic feature of the situation is that there are a sufficient number of such manufacturers to bring about ruinous prices in the market. Buyers will purchase goods at the lowest prices—nothing else could be expected of them.

Wages in French Metal Industries in 1932

A WAGE study made by the employers' association in the metal-working industries and the machine trades of the region of Paris each year shows the average wages paid in the various occupations of the industry in that section of France. The results of the study are given in the July-September, 1932, issue of the Bulletin de la Statistique générale de la France.

There was a general lowering of wages in 1932, the report states, as compared with the preceding year. This reduction is in general about 7 per cent for skilled workers (males), although in some cases it is not more than 5 per cent, and in one industry—metal-pipe manufacture—the wages of pipe drawers were unchanged. The reduction in the wages of skilled laborers (female) and of ordinary laborers did not exceed 5.5 per cent. These reductions were made for the most part in the last quarter of 1931.

The following table shows the average hourly wages of metal workers in different industries in January-February, 1932. The wages include all bonuses except family allowances:

AVERAGE HOURLY WAGES IN THE METAL INDUSTRIES IN THE REGION OF PARIS, FRANCE, IN JANUARY-FEBRUARY, 1932, BY OCCUPATION

[Conversions into United States currency on basis of franc at par=3.92 cents]

Industry and occupation	Average hourly wages of—			
	Timeworkers		Pieceworkers	
	French currency	United States currency	French currency	United States currency
	Francs	*Cents*	*Francs*	*Cents*
Machine industries, general:				
Fitters	5.62	22.0	6.49	25.4
Fitters, toolmakers	6.53	25.6	7.12	27.9
Blacksmiths	5.82	22.8	6.67	26.1
Milling-machine operators	5.83	22.9	6.72	26.3
Pattern makers	6.62	26.0	7.22	28.3
Mortising and planing machine hands	5.86	23.0	6.62	26.0
Lathe hands	5.85	22.9	6.77	26.5
Automobiles:				
Fitters	5.55	21.8	6.31	24.7
Fitters, toolmakers	6.55	25.7	7.09	27.8
Coppersmiths	6.29	24.7	7.00	27.4
Milling-machine operators	6.09	23.9	6.66	26.1
Milling-machine hands—toolmakers	6.69	26.2	7.00	27.4
Machine setters	5.95	23.3	6.74	26.4
Lathe hands	5.79	22.7	6.62	26.0
Lathe and tool hands	6.76	26.5	7.02	27.5
Electrical construction:				
Fitters	5.65	22.1	6.47	25.4
Fitters, toolmakers	6.52	25.6	7.16	28.1
Electrical fitters	5.62	22.0	6.39	25.0
Coil winders	5.57	21.8	6.27	24.6
Electricians, factory installations	5.59	21.9	6.31	24.7
Electricians, outside installations	5.84	22.9	----	----
Lathe hands	5.88	23.0	6.69	26.2
Lathe and tool hands	6.85	26.9	7.18	28.1
Metal construction:				
Structural-iron workers	6.02	23.6	6.48	25.4
Blacksmiths	6.44	25.2	----	----
Locksmiths	6.17	24.2	6.75	26.5
Drop forging:				
Blacksmiths	5.81	22.8	6.72	26.3
Hammermen	6.67	26.1	7.39	29.0
Swagers	----	----	7.42	29.1
Metal-pipe manufacture:				
Draw-bench workers	5.25	20.6	----	----
Pipe drawers	4.84	19.0	5.79	22.7
Iron and steel foundries:				
Molders, hand	6.00	23.5	6.85	26.9
Core makers	5.78	22.7	6.79	26.6
All industries:				
Laborers, male	4.13	16.2	4.61	18.1
Laborers, female	3.25	12.7	3.68	14.4
Skilled laborers, female	3.48	13.6	4.03	15.8

Wages in German Coal Mining, 1929 to 1932

IN CLOSE connection with the general economic depression, coal mining in Germany has decreased since 1929. The following table shows the earnings of coal-mine workers for 1929, 1930, 1931, and for the month of May, 1931 and 1932:[1]

AVERAGE CASH EARNINGS IN COAL MINING IN GERMANY

Bituminous coal (Steinkohl)

[Conversions into United States currency on basis of mark at par=23.8 cents]

Year or month	Adult males						All workers	
	Underground workers			Surface workers			Per month	Per shift
	Pick miners	Wagoners	Total	Skilled	Unskilled	Total		
1929	$2.35	$1.93	$2.10	$2.06	$1.69	$1.81	$46.41	$2.01
1930	2.36	1.93	2.12	2.06	1.71	1.83	43.32	2.03
1931	2.15	1.73	1.94	1.91	1.57	1.69	38.79	1.86
May, 1931	2.19	1.76	1.98	1.96	1.62	1.74	37.37	1.89
May, 1932	1.82	1.44	1.65	1.64	1.37	1.47	30.46	1.58

Lignite coal (Braunkohl)

Year or month	Adult males—per shift				All workers	
	Muckers (laborers)	Surface workers	Underground workers	Total	Per month	Per shift
1929	$1.72	$2.05	$2.16	$1.82	$43.32	$1.78
1930	1.69	1.95	2.15	1.80	40.94	1.77
1931	1.61	1.88	2.03	1.69	37.84	1.67
May, 1931	1.64	1.89	2.07	1.73	38.79	1.70
May, 1932	1.30	1.55	1.72	1.40	29.27	1.39

Wages in Tokyo, 1932

THE wages of Tokyo workers in June, 1932, in various occupations, are shown in the following table, based on a tabulation presented in the June, 1932, issue of the Monthly Report on Current Economic Conditions, published by the Tokyo Chamber of Commerce and Industry:

[1] Germany. Statistisches Reichsamt. Wirtschaft und Statistik, Berlin, Aug. 2, 1932, pp. 508–510.

DAILY WAGES IN TOKYO, JUNE, 1932

[Conversions into United States currency on basis of yen at par=50 cents. Average exchange rate of yen for June, 1932, was about 30 cents]

Occupation	Daily wage		Index numbers (June, 1931=100)	Occupation	Daily wage		Index numbers (June, 1931=100)
	Japanese currency	U. S. currency			Japanese currency	U. S. currency	
Textile industry:	*Yen*			Food industry—Continued.			
Silk reelers, female	0.67	$0.34	83.7	Confectioners (Japanese cake)	*Yen* 1.74	$0.87	98.3
Cotton spinners, female	.87	.44	86.1	Canners	1.62	.81	96.4
Silk throwers, female	.82	.41	91.1	Wearing apparel industry:			
Cotton weavers, machine, female	.80	.40	87.0	Tailors (for European dress)	2.46	1.23	100.0
Silk weavers, hand, female	1.37	.69	96.5	Shoemakers	2.19	1.10	98.6
Hosiery knitters, male	2.25	1.13	102.3	Clogmakers	1.40	.70	100.0
Hosiery knitters, female	1.25	.63	96.2	Building industry:			
Metal industry:				Carpenters	2.02	1.01	88.6
Lathemen	3.85	1.93	128.8	Plasterers	2.37	1.19	93.7
Finishers	3.35	1.68	90.1	Stonemasons	2.93	1.47	100.0
Founders	3.02	1.51	119.4	Bricklayers	2.67	1.34	95.4
Blacksmiths	3.09	1.55	109.6	Roofing-tile layers	2.60	1.30	94.5
Wooden pattern makers	3.49	1.75	87.9	Painters	2.31	1.16	98.7
Stone, glass, and clay products:				Woodworking industry:			
Cement makers	2.36	1.18	98.3	Sawyers (machine)	1.74	.87	96.7
Glassmakers	2.42	1.21	103.4	Joiners	1.85	.93	94.9
Potters	1.77	.89	101.1	Lacquerers	1.97	.99	96.1
Tile makers (shape)	1.40	.70	96.6	Printing industry:			
Chemical industry:				Compositors	3.17	1.59	95.5
Matchmakers, male	1.15	.58	100.0	Bookbinders	2.22	1.11	92.9
Matchmakers, female	.65	.33	100.0	Day laborers:			
Oil pressers	1.51	.76	100.7	Stevedores	2.25	1.13	97.4
Paper industry:				Day laborers, male	1.40	.70	95.9
Makers of Japanese paper	1.50	.75	100.0	Day laborers, female	.80	.40	103.9
Makers of printing paper	1.79	.90	99.4	Fishermen	1.69	.85	92.9
Leather industry: Leather makers	2.97	1.49	101.4	Domestic service:			
Food industry:				Servants, male	.83	.42	88.3
Flour millers	1.89	.95	100.0	Servants, female	.77	.39	87.5
Sake-brewery workers	1.30	.65	86.7	Other industries:			
Soy-brewery workers	2.10	1.05	95.5	Rope makers	1.45	.73	100.0
Sugar refinery workers	2.39	1.20	100.0	Mat makers (Tatami)	2.40	1.20	98.0

Wages in Lithographing and Photo-Engraving Trades in Netherlands, January, 1932

THE following table shows average weekly wages received by the workers engaged in lithography and photo-engraving in Netherlands in January, 1932:[1]

AVERAGE WEEKLY WAGES IN LITHOGRAPHY AND PHOTO-ENGRAVING IN NETHERLANDS JANUARY, 1932

[Conversions into United States currency on basis of florin at par=40.2 cents]

Group of workers	Number of workers	Average weekly wages		Group of workers	Number of workers	Average weekly wages	
		Netherlands currency	United States currency			Netherlands currency	United States currency
Lithography		*Florins*		*Photo-engraving*		*Florins*	
Lithographers	147	47.85	$19.24	Photographers	38	45.00	$18.09
Transferers	110	46.66	18.76	Plate makers	22	42.69	17.16
Hand pressmen	249	42.08	16.92	Line etchers	55	42.59	17.12
Offset printers	146	40.29	16.20	Halftone etchers	69	43.66	17.55
Binders and cutters	50	39.47	15.87	Color etchers	41	50.82	20.43
Stone grinders and polishers	70	33.12	13.31				
Assistants	39	27.88	11.21	Total, 1932	378	43.77	17.60
Total, 1932	811	41.81	16.81	1931	445	45.24	18.19
1931	913	41.37	16.63	1929	388	45.17	18.16
1929	834	40.90	16.44	1928	347	44.07	17.72
1928	872	39.34	16.00	1927	299	43.54	17.50
1927	855	39.11	15.81				

[1] Netherlands. Centraal Bureau voor de Statistiek. Maandschrift, Aug. 31, 1932, p. 971.

As is seen from the above table, the average weekly wages of lithographic workers have steadily increased, from $15.81 in 1927 to $16.81 in 1932, and the average weekly wages of photo-engraving workers have increased from $17.50 in 1927 to $18.19 in 1931 and then dropped to $17.60 in 1932.

Wages of Miners in Netherlands in June, 1931 and 1932

THE following table, showing the daily wages paid to various groups of mine workers in June, 1931 and 1932, is taken from Maandschrift van het Centraal Bureau voor de Statistiek, for August 31, 1932 (p. 970):

AVERAGE DAILY WAGES IN MINING IN NETHERLANDS IN JUNE, 1931 AND 1932

[Conversions into United States currency on basis of florin at par=40.2 cents]

Occupation	June, 1931		June, 1932	
	Netherlands currency	United States currency	Netherlands currency	United States currency
Underground workers:	*Florins*		*Florins*	
Miners, foremen	8.13	$3.27	7.25	$2.91
Gang foremen and blasting foremen	6.92	2.78	6.20	2.49
Miners	6.19	2.49	5.57	2.24
Miners serving as prop setters	6.02	2.42	5.32	2.14
Prop setters	5.36	2.15	4.77	1.92
Miners' helpers	5.40	2.17	4.83	1.94
Haulers	4.73	1.90	4.20	1.69
Other haulers over 21 years of age	4.22	1.70	3.77	1.52
Haulers from 18 to 21 years of age	3.66	1.47	3.13	1.26
Skilled workers	5.70	2.29	5.22	2.10
First signalmen	5.70	2.29	5.26	2.11
Second signalmen	5.08	2.04	4.49	1.80
Engine drivers	5.28	2.12	4.70	1.89
Pump operators	4.70	1.89	4.14	1.66
Stablemen	4.53	1.82	4.13	1.66
Laborers—				
Over 21 years of age	4.89	1.97	4.33	1.74
18 to 21 years of age	3.78	1.52	3.23	1.30
17 to 18 years of age	2.89	1.16	2.60	1.04
16 to 17 years of age	2.51	1.01	2.14	.86
Average	5.63	2.26	5.10	2.05
Surface workers:				
First group (skilled)	5.62	2.26	5.04	2.03
Second group (semiskilled)	4.90	1.97	4.41	1.77
Third group (unskilled)	4.34	1.74	3.87	1.56
Laborers—				
21 to 22 years of age	3.50	1.41	3.09	1.24
19 to 20 years of age	2.74	1.10	2.37	.95
16 to 18 years of age	1.83	.74	1.58	.64
Under 16 years of age	1.26	.51	1.10	.44
Average	4.25	1.71	3.86	1.55
Grand average	5.22	2.10	4.69	1.89

The average daily wage for underground mine workers decreased from $2.26 to $2.05 during the year from June, 1931, to June, 1932, while the daily wages for surface mine workers decreased from $1.71 to $1.55 and the grand average for both groups of mine workers decreased from $2.10 to $1.89.

Wages in the Building Trades in Amsterdam, Netherlands, in June, 1931 and 1932

THE following table, showing average hourly wages in the building trades in Amsterdam, Netherlands, is taken from Maandschrift van het Central Bureau voor de Statistiek for August 31, 1932 (p. 970).

AVERAGE HOURLY WAGES IN NETHERLANDS BUILDING TRADES IN JUNE, 1931 AND 1932

[Conversions into United States currency on basis of Dutch cent at par=0.402 cent]

Occupation	June, 1931		June, 1932	
	Netherlands currency	United States currency	Netherlands currency	United States currency
	Cents	*Cents*	*Cents*	*Cents*
Carpenters	90	36	86	35
Masons	95	38	88	35
Hod carriers	81	33	80	32
Journeymen	86	35	82	33
Journeymen, structural iron and concrete	92	37	80	32
Cement workers	89	36	89	36
Joiners	93	37	89	36

Thus the hourly wages in the building trades decreased by 1 cent for carpenters, hod carriers, and joiners; by 2 cents for journeymen; by 3 cents for masons; by 5 cents for journeymen in structural-iron and concrete work; while the wages of cement workers remained unchanged, during the year from June, 1931, to June, 1932.

TREND OF EMPLOYMENT

Summary for September, 1932

EMPLOYMENT increased 3.5 per cent in September, 1932, as compared with August, 1932, and pay-roll totals increased 2.5 per cent. These figures are based on the pay rolls ending nearest the 15th of the month.

The industrial groups surveyed, the number of establishments reporting in each group, the number of employees covered, and the pay roll for one week, for both August and September, 1932, together with the per cents of change in September are shown in the following tabulation:

SUMMARY OF EMPLOYMENT AND EARNINGS, AUGUST AND SEPTEMBER, 1932

Industrial group	Establishments	Employment		Per cent of change	Earnings in 1 week		Per cent of change
		August, 1932	September, 1932		August, 1932	September, 1932	
Manufacturing	**18,165**	**2,526,932**	**2,620,867**	[1] **+4.5**	**$43,022,065**	**$44,626,055**	[1] **+5.0**
Coal mining	**1,296**	**214,072**	**230,657**	**+7.7**	**3,366,182**	**3,837,282**	**+14.0**
Anthracite	160	67,212	76,361	+13.6	1,644,300	1,868,237	+13.6
Bituminous	1,136	146,860	154,296	+5.1	1,721,882	1,969,045	+14.4
Metalliferous mining	**256**	**18,433**	**18,840**	**+2.2**	**336,313**	**346,328**	**+3.0**
Quarrying and nonmetallic mining	**642**	**23,865**	**24,436**	**+2.4**	**373,811**	**383,817**	**+2.8**
Crude petroleum producing	**274**	**21,636**	**21,190**	**−2.1**	**609,542**	**594,938**	**−2.4**
Public utilities	**12,332**	**631,219**	**626,116**	**−0.8**	**17,630,791**	**17,083,678**	**−3.1**
Telephone and telegraph	8,270	276,994	274,220	−1.0	7,521,039	7,217,273	−4.0
Power and light	3,563	218,814	217,549	−0.6	6,457,333	6,288,599	−2.6
Electric-railroad and motor-bus operation and maintenance	499	135,411	134,347	−0.8	3,652,419	3,577,806	−2.0
Trade	**16,953**	**381,491**	**404,587**	**+6.1**	**8,213,790**	**8,609,502**	**+4.8**
Wholesale	2,720	69,957	70,609	+0.9	1,899,276	1,897,767	−0.1
Retail	14,233	311,534	333,978	+7.2	6,314,514	6,711,735	+6.3
Hotels	**2,590**	**139,518**	**138,610**	**−0.7**	[2] **1,877,132**	[2] **1,862,217**	**−0.8**
Canning and preserving	**941**	**70,845**	**89,706**	**+26.6**	**834,822**	**956,747**	**+14.6**
Laundries	**1,023**	**61,535**	**61,315**	**−0.4**	**972,640**	**957,370**	**−1.6**
Dyeing and cleaning	**379**	**11,829**	**12,382**	**+4.7**	**210,389**	**228,202**	**+8.5**
Building construction	**10,408**	**87,293**	**85,392**	**−2.2**	**2,230,320**	**2,166,216**	**−2.9**
Total	**65,259**	**4,188,668**	**4,334,098**	**+3.5**	**79,677,797**	**81,652,352**	**+2.5**

[1] Weighted per cent of change for the combined 89 manufacturing industries, wherein the proper allowance is made for the relative importance of the several industries so that the figures represent all establishments of the country in the 89 industries surveyed; the remaining per cents of change, including total, are unweighted.

[2] The amount of pay roll given represents cash payments only; the additional value of board, room, and tips can not be computed.

Data are not yet available concerning railroad employment for September, 1932. (See section "Class I steam railroads" for latest figures reported.)

Per capita weekly earnings in September, 1932, for each of the 16 industrial groups included in the bureau's monthly trend-of-employment survey, together with the per cents of change in September, 1932, as compared with August, 1932, and September, 1931, are given

in the table following. These per capita weekly earnings must not be confused with full-time weekly rates of wages; they are per capita weekly earnings computed by dividing the total amount of pay roll for the week by the total number of employees (part-time as well as full-time workers).

PER CAPITA WEEKLY EARNINGS IN 16 INDUSTRIAL GROUPS IN SEPTEMBER, 1932, AND COMPARISON WITH AUGUST, 1932, AND SEPTEMBER, 1931

Industrial group	Per capita weekly earnings in September, 1932	Per cent of change September, 1932, compared with—	
		August, 1932	September, 1931
Manufacturing	$17.03	+0.5	−18.6
Coal mining:			
Anthracite	24.47	+[1]	+3.8
Bituminous	12.76	+8.9	−27.4
Metalliferous mining	18.38	+.7	−19.6
Quarrying and nonmetallic mining	15.71	+.3	−24.3
Crude petroleum producing	28.03	−.3	−17.3
Public utilities:			
Telephone and telegraph	26.32	−3.1	−9.5
Power and light	28.91	−2.0	−7.4
Electric-railroad and motor-bus operation and maintenance	26.63	−1.3	−13.4
Trade:			
Wholesale	26.88	−1.0	−13.4
Retail	20.10	−.8	−13.9
Hotels (cash payments only) [2]	13.43	−.1	−15.0
Canning and preserving	10.67	−9.4	−16.6
Laundries	15.61	−1.3	−15.1
Dyeing and cleaning	18.43	+3.6	−15.6
Building construction	25.37	−.7	[3]
Total	[4] 18.71	[4] −.9	[4] −15.1

[1] Less than one-tenth of 1 per cent.
[2] The additional value of board, room, and tips can not be computed.
[3] Data not available.
[4] Does not include building construction.

Employment in Selected Manufacturing Industries in September, 1932

Comparison of Employment and Pay-Roll Totals in September, 1932, with August, 1932, and September, 1931

EMPLOYMENT in manufacturing industries increased 4.5 per cent in September, 1932, as compared with August, 1932, and pay-roll totals increased 5 per cent over the month interval. Comparing September, 1932, with September, 1931, decreases of 17.5 per cent in employment and 32.8 per cent in pay rolls are shown over the 12-month period.

The per cents of change in employment and pay-roll totals in September, 1932, as compared with August, 1932, are based on returns made by 18,165 establishments in 89 of the principal manufacturing industries in the United States, having in September 2,620,867 employees whose earnings in one week were $44,626,055.

The index of employment in September, 1932, was 58.5 as compared with 56.0 in August, 1932, 55.2 in July, 1932, and 70.9 in September, 1931; the pay-roll index in September, 1932, was 38.1 as compared with 36.3 in August, 1932, 36.2 in July, 1932, and 56.7 in September, 1931. The 12-month average for 1926 equals 100.

In Table 1, which follows, are shown the number of identical establishments reporting in both August and September, 1932, in the 89 manufacturing industries, together with the total number of employees on the pay rolls of these establishments during the pay period ending nearest September 15, the amount of their weekly earnings in September, the per cents of change over the month and year intervals, and the index numbers of employment and pay roll in September, 1932.

The monthly per cents of change for each of the 89 separate industries are computed by direct comparison of the total number of employees and of the amount of weekly earnings reported in identical establishments for the two months considered. The per cents of change over the month interval in the several groups and in the total of the 89 manufacturing industries are computed from the index numbers of these groups, which are obtained by weighting the index numbers of the several industries in the groups by the number of employees or wages paid in the industries. The per cents of change over the year interval in the separate industries, in the groups, and in the totals are computed from the index numbers of employment and pay-roll totals.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY ROLLS IN MANUFACTURING ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, AND SEPTEMBER, 1931

Industry	Establishments reporting in both August and September, 1932	Employment			Pay rolls			Index numbers, September, 1932 (average, 1926=100)	
		Number on pay roll, September, 1932	Per cent of change		Amount of pay roll (1 week), September, 1932	Per cent of change		Employment	Pay-roll totals
			August to September, 1932	September, 1931, to September, 1932		August to September, 1932	September, 1931, to September, 1932		
Food and kindred products	**3,119**	**245,950**	**+3.7**	**−6.8**	**$5,205,604**	**+3.8**	**−19.3**	**83.6**	**68.7**
Slaughtering and meat packing	229	83,413	+2.5	−1.4	1,745,518	+4.4	−17.0	87.1	70.8
Confectionery	326	39,576	+24.4	−.7	589,897	+29.8	−16.3	88.9	69.1
Ice cream	405	13,031	−6.2	−11.9	347,954	−7.3	−25.4	76.5	61.5
Flour	439	16,342	+2.6	−4.8	349,867	+1.5	−17.3	84.6	68.9
Baking	976	63,152	−.3	−11.8	1,438,451	+1.7	−20.8	80.4	68.7
Sugar refining, cane	15	8,226	+1.3	−6.5	211,930	−.6	−14.1	77.4	68.5
Beet sugar	59	5,404	+19.6	+14.0	118,411	+20.5	−11.5	62.6	49.4
Beverages	342	10,602	+2.9	−14.0	265,818	−2.8	−26.6	77.0	62.0
Butter	328	6,204	−1.7	−10.5	137,758	−2.5	−19.8	101.8	83.4
Textiles and their products	**3,032**	**613,747**	**+14.1**	**−9.5**	**$8,430,478**	**+23.4**	**−24.2**	**71.1**	**49.5**
Cotton goods	694	226,089	+17.5	−4.6	2,477,605	+30.8	−19.4	71.9	50.3
Hosiery and knit goods	445	101,351	+11.3	−.9	1,402,346	+26.3	−13.5	80.9	58.3
Silk goods	247	45,738	+13.9	−11.9	608,696	+12.3	−30.2	61.2	41.3
Woolen and worsted goods	253	59,013	+8.1	−6.5	967,905	+11.8	−17.4	76.1	56.4
Carpets and rugs	30	12,281	+.2	−32.3	173,067	+4.7	−51.9	47.2	25.3
Dyeing and finishing textiles	148	33,857	+14.2	−9.5	663,740	+26.7	−21.7	77.8	60.0
Clothing, men's	358	61,108	+9.7	−14.4	920,594	+20.0	−27.7	68.3	42.9
Shirts and collars	109	13,791	+13.3	−23.1	138,147	+9.1	−41.2	57.4	34.7
Clothing, women's	363	25,040	+25.1	−21.8	475,386	+30.7	−38.2	66.8	45.5
Millinery	128	9,686	+21.3	−4.9	189,057	+37.7	−13.0	75.7	59.4
Corsets and allied garments	32	5,403	+3.9	−8.5	76,043	+14.8	−15.8	96.2	70.7
Cotton small wares	114	8,814	+6.5	−17.0	133,596	+19.9	−28.4	73.0	53.1
Hats, fur-felt	38	6,146	+9.3	−13.3	141,244	+29.5	−17.5	74.4	57.0
Men's furnishings	73	5,430	+30.1	−14.7	63,052	+44.8	−37.9	60.2	37.7

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY ROLLS IN MANUFACTURING ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, AND SEPTEMBER, 1931—Continued

Industry	Establishments reporting in both August and September, 1932	Employment			Pay rolls			Index numbers, September, 1932 (average, 1926=100)	
		Number on pay roll, September, 1932	Per cent of change		Amount of pay roll (1 week), September, 1932	Per cent of change		Employment	Pay-roll totals
			August to September, 1932	September, 1931, to September, 1932		August to September, 1932	September, 1931, to September, 1932		
Iron and steel and their products, not including machinery	**1,399**	**288,369**	**+2.0**	**−22.9**	**$3,940,955**	**+4.8**	**−45.2**	**51.8**	**24.2**
Iron and steel	214	169,518	+1.7	−21.8	2,032,069	+4.6	−49.5	51.3	20.4
Cast-iron pipe	40	5,261	−8.5	−47.3	72,300	+.1	−58.1	28.1	15.8
Structural and ornamental ironwork	189	14,700	−4.2	−38.4	251,828	−4.5	−55.8	42.7	23.9
Hardware	110	20,374	+3.8	−21.6	256,760	+8.6	−42.2	48.2	22.7
Steam fittings and steam and hot-water heating apparatus	102	13,870	+7.2	−30.4	239,443	+8.7	−40.5	35.5	20.4
Stoves	157	15,540	+18.3	−19.0	283,015	+33.1	−34.2	51.7	31.6
Bolts, nuts, washers, and rivets	67	8,230	+1.1	−16.0	109,779	+1.0	−41.8	61.0	29.5
Cutlery (not including silver and plated cutlery) and edge tools	129	8,945	+.9	−12.8	150,064	−.9	−25.7	63.6	39.1
Forgings, iron and steel	60	4,953	−5.9	−28.8	66,243	−12.6	−50.9	49.9	21.9
Plumbers' supplies	72	5,839	−14.9	−31.4	93,002	−20.2	−51.0	50.2	27.5
Tin cans and other tinware	59	9,302	+7.6	−.6	194,814	+16.1	−5.2	81.2	52.4
Tools (not including edge tools, machine tools, files, or saws)	130	6,581	+8.4	−30.0	102,364	+22.0	−40.9	59.0	32.4
Wirework	70	5,256	+2.8	−12.1	89,274	+6.3	−28.2	92.7	63.2
Lumber and allied products	**1,585**	**119,192**	**+3.6**	**−25.8**	**1,557,056**	**+7.8**	**−47.6**	**37.7**	**20.8**
Lumber—									
Sawmills	620	57,731	+2.2	−25.1	666,498	+4.7	−49.9	35.2	18.1
Millwork	464	16,885	−.3	−30.0	250,435	+.7	−48.3	34.5	20.0
Furniture	479	43,557	+9.0	−26.2	626,504	+18.1	−45.2	45.3	25.7
Turpentine and rosin	22	1,019	+1.4	−20.9	13,619	−4.5	−30.2	42.1	35.1
Leather and its manufactures	**493**	**127,023**	**+2.4**	**−7.6**	**2,077,876**	**+5.8**	**−19.4**	**77.0**	**52.7**
Leather	166	23,897	+4.1	−13.5	446,060	+6.7	−27.1	67.0	51.5
Boots and shoes	327	103,126	+2.1	−6.1	1,631,816	+5.4	−17.1	79.5	53.0
Paper and printing	**1,935**	**215,111**	**+1.9**	**−10.9**	**5,403,342**	**+3.8**	**−22.4**	**78.8**	**65.1**
Paper and pulp	400	78,409	+2.6	−6.8	1,406,154	+5.6	−23.1	74.1	49.4
Paper boxes	310	19,781	+4.8	−16.0	357,706	+11.8	−24.1	69.8	59.0
Printing—									
Book and job	756	48,529	+1.1	−16.6	1,313,784	+3.1	−27.5	71.7	58.6
Newspapers and periodicals	469	68,392	+1.2	−6.5	2,325,698	+2.1	−17.9	96.3	84.7
Chemicals and allied products	**1,032**	**137,404**	**+8.6**	**−11.5**	**3,090,543**	**+6.1**	**−24.4**	**73.4**	**59.5**
Chemicals	116	19,740	+1.3	−13.6	463,559	−.2	−27.8	82.3	58.5
Fertilizers	206	5,925	+24.1	−15.2	74,460	+17.4	−32.7	42.5	29.6
Petroleum refining	120	46,555	+.9	−9.3	1,284,140	−2.9	−20.2	63.4	54.6
Cottonseed oil, cake, and meal	52	2,546	+68.7	+51.3	27,573	+43.5	+7.2	46.3	40.3
Druggists' preparations	41	7,313	+2.2	−19.4	147,502	+3.7	−25.4	69.7	68.1
Explosives	24	2,867	+3.5	−25.4	52,129	+2.9	−45.0	71.6	44.8
Paints and varnishes	362	14,835	+1.4	−14.6	318,547	+5.9	−28.8	66.9	51.6
Rayon	22	25,405	+41.0	−14.7	438,149	+48.7	−25.5	130.9	110.8
Soap	89	12,218	+.7	−8.1	284,484	+2.3	−17.4	94.5	83.3
Stone, clay, and glass products	**1,348**	**85,885**	**+2.8**	**−30.2**	**1,374,787**	**+2.0**	**−46.8**	**43.5**	**26.0**
Cement	125	14,294	+10.2	−28.0	251,454	+5.0	−49.2	41.9	24.5
Brick, tile, and terra cotta	684	19,705	−1.1	−36.9	245,444	−.3	−55.5	29.6	13.7
Pottery	123	13,537	+5.0	−26.0	197,253	+11.7	−42.4	54.6	29.8
Glass	196	32,332	+3.0	−24.9	550,059	−.3	−40.7	54.3	36.4
Marble, granite, slate, and other stone products	220	6,017	+1.4	−33.1	130,577	+.1	−47.4	52.9	35.6

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY ROLLS IN MANUFACTURING ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, AND SEPTEMBER, 1931—Continued

Industry	Establishments reporting in both August and September, 1932	Employment			Pay rolls			Index numbers, September, 1932 (average, 1926=100)	
			Per cent of change			Per cent of change			
		Number on pay roll, September, 1932	August to September, 1932	September, 1931, to September, 1932	Amount of pay roll (1 week), September, 1932	August to September, 1932	September, 1931, to September, 1932	Employment	Pay-roll totals
Nonferrous metals and their products	**623**	**75,567**	**+4.4**	**−20.5**	**$1,276,896**	**+9.8**	**−36.6**	**52.4**	**33.6**
Stamped and enameled ware	89	12,746	+8.2	−12.7	209,571	+15.6	−29.0	61.7	40.0
Brass, bronze, and copper products	203	26,212	+2.1	−21.9	422,783	+5.6	−38.6	50.3	29.3
Aluminum manufactures	26	4,875	+2.6	−19.4	69,542	+9.7	−43.5	47.5	25.8
Clocks, time-recording devices, and clock movements	23	3,806	−3.6	−34.8	54,073	+2.0	−50.2	40.1	26.9
Gas and electric fixtures, lamps, lanterns, and reflectors	53	4,620	+4.4	−28.6	95,325	+8.8	−38.6	63.2	45.1
Plated ware	54	7,326	+5.2	−15.1	136,413	+11.5	−34.2	60.5	37.9
Smelting and refining copper, lead, and zinc	28	7,292	+1.9	−19.4	124,151	+8.0	−35.4	54.9	35.7
Jewelry	147	8,690	+15.2	−22.5	165,038	+27.1	−35.3	40.7	27.9
Tobacco manufactures	**242**	**55,511**	**+2.4**	**−11.5**	**717,992**	**+3.2**	**−18.4**	**72.0**	**54.2**
Chewing and smoking tobacco and snuff	32	9,941	−1.3	+6.2	141,146	+3.3	−1.2	87.5	74.2
Cigars and cigarettes	210	45,570	+3.1	−13.9	576,846	+3.1	−20.8	70.0	51.8
Transportation equipment	**416**	**214,700**	**−10.9**	**−39.8**	**3,357,914**	**−26.2**	**−43.9**	**45.0**	**23.6**
Automobiles	243	176,016	−12.9	−30.7	2,489,249	−32.0	−46.5	45.3	21.6
Aircraft	30	5,210	−5.4	−33.8	161,920	−8.7	−32.0	161.5	167.2
Cars, electric and steam railroad	39	5,270	+3.8	−26.6	93,375	−.6	−37.6	19.3	11.1
Locomotives	11	2,186	−9.0	−40.8	42,172	−19.1	−57.1	14.5	9.4
Shipbuilding	93	26,018	−3.6	−23.8	571,198	−1.9	−33.3	69.0	51.6
Rubber products	**150**	**70,188**	**−2.8**	**−14.3**	**1,214,101**	**−6.2**	**−30.0**	**62.3**	**37.6**
Rubber tires and inner tubes	44	43,199	−4.7	−11.9	731,588	−17.4	−33.1	59.3	32.2
Rubber boots and shoes	9	9,097	−8.1	−28.8	157,209	+11.6	−34.7	49.5	37.3
Rubber goods, other than boots, shoes, tires, and inner tubes	97	17,892	+3.4	−10.5	325,304	+11.6	−21.0	78.8	53.3
Machinery, not including transportation equipment	**1,855**	**282,060**	**+.2**	**−31.6**	**5,024,298**	**+1.9**	**−45.9**	**45.3**	**26.2**
Agricultural implements	78	5,369	−3.2	−32.3	81,590	−6.1	−37.1	21.0	14.6
Electrical machinery, apparatus, and supplies	294	107,471	−5.4	−34.5	2,080,268	−1.6	−48.8	50.6	32.9
Engines, turbines, tractors, and water wheels	88	15,111	−.3	−31.7	277,896	−1.8	−44.6	39.3	22.6
Cash registers, adding machines, and calculating machines	45	13,171	+1.3	−19.3	306,363	+.5	−21.2	62.9	45.4
Foundry and machine-shop products	1,095	97,929	+1.5	−28.6	1,507,758	+1.4	−45.6	43.4	22.2
Machine tools	154	10,484	+5.8	−45.9	188,022	+4.8	−55.5	30.2	17.7
Textile machinery and parts	41	6,265	+6.2	−28.0	110,795	+14.3	−39.3	52.3	33.0
Typewriters and supplies	18	8,639	+37.2	−27.2	118,602	+34.5	−43.8	55.8	29.1
Radio	42	17,621	+8.0	−40.3	353,004	+25.0	−41.1	68.1	56.1
Railroad repair shops	**936**	**90,160**	**+3.8**	**−20.4**	**1,954,213**	**+1.5**	**−36.1**	**46.5**	**33.5**
Electric railroad	399	20,938	−.4	−11.1	533,081	−1.7	−21.6	66.5	53.7
Steam railroad	537	69,222	+4.3	−21.4	1,421,132	+1.9	−37.6	44.9	31.9
Total, 89 industries	**18,165**	**2,620,867**	**+4.5**	**−17.5**	**$44,626,055**	**+5.0**	**−32.8**	**58.5**	**38.1**

Per Capita Earnings in Manufacturing Industries

PER capita weekly earnings in September, 1932, for each of the 89 manufacturing industries surveyed by the Bureau of Labor Statistics, together with the per cents of change in September, 1932, as compared with August, 1932, and September, 1931, are shown in Table 2.

These earnings must not be confused with full-time weekly rates of wages. They are per capita weekly earnings, computed by dividing the total amount of pay roll for the week by the total number of employees (part-time as well as full-time workers).

TABLE 2.—PER CAPITA WEEKLY EARNINGS IN MANUFACTURING INDUSTRIES IN SEPTEMBER, 1932, AND COMPARISON WITH AUGUST, 1932, AND SEPTEMBER, 1931

Industry	Per capita weekly earnings in September, 1932	Per cent of change compared with—	
		August, 1932	September, 1931
Food and kindred products:			
Slaughtering and meat packing	$20.93	+1.8	−15.9
Confectionery	14.91	+4.3	−15.9
Ice cream	26.70	−1.2	−15.3
Flour	21.41	−1.1	−13.0
Baking	22.78	+2.0	−9.9
Sugar refining, cane	25.76	−1.9	−7.9
Beet sugar	21.91	+.8	−22.3
Beverages	25.07	−5.6	−15.1
Butter	22.20	−.8	−10.2
Textiles and their products:			
Cotton goods	10.96	+11.4	−15.5
Hosiery and knit goods	13.84	+13.5	−12.8
Silk goods	13.31	−1.4	−21.0
Woolen and worsted goods	16.40	+3.4	−11.7
Carpets and rugs	14.09	+4.4	−29.1
Dyeing and finishing textiles	19.60	+10.9	−13.4
Clothing, men's	15.07	+9.4	−15.2
Shirts and collars	10.02	−3.7	−23.2
Clothing, women's	18.99	+4.5	−20.9
Millinery	19.52	+13.6	−8.5
Corsets and allied garments	14.07	+10.4	−8.1
Cotton small wares	15.16	+12.6	−13.9
Hats, fur-felt	22.98	+18.5	−4.8
Men's furnishings	11.61	+11.3	−27.3
Iron and steel and their products, not including machinery:			
Iron and steel	11.99	+2.9	−35.4
Cast-iron pipe	13.74	+9.4	−20.0
Structural and ornamental ironwork	17.13	−.3	−28.6
Hardware	12.60	+4.7	−26.2
Steam fittings and steam and hot-water heating apparatus	17.26	+1.4	−14.6
Stoves	18.21	+12.5	−19.2
Bolts, nuts, washers, and rivets	13.34	−.1	−30.7
Cutlery (not including silver and plated cutlery) and edge tools	16.78	−1.8	−14.6
Forgings, iron and steel	13.37	−7.2	−30.9
Plumbers' supplies	15.93	−6.2	−28.8
Tin cans and other tinware	20.94	+7.9	−4.6
Tools (not including edge tools, machine tools, files, or saws)	15.55	+12.5	−15.5
Wirework	16.99	+3.5	−18.2
Lumber and allied products:			
Lumber—			
Sawmills	11.54	+2.4	−32.9
Millwork	14.83	+1.0	−25.8
Furniture	14.38	+8.4	−25.4
Turpentine and rosin	13.37	−5.8	−11.6
Leather and its manufactures:			
Leather	18.67	+2.5	−15.9
Boots and shoes	15.82	+3.2	−11.5
Paper and printing:			
Paper and pulp	17.93	+2.9	−17.3
Paper boxes	18.08	+6.7	−9.6
Printing—			
Book and job	27.07	+1.9	−13.4
Newspapers and periodicals	34.01	+1.0	−12.0

TABLE 2.—PER CAPITA WEEKLY EARNINGS IN **MANUFACTURING** INDUSTRIES IN SEPTEMBER, 1932, AND COMPARISON WITH AUGUST, 1932, AND SEPTEMBER, 1931—Continued

Industry	Per capita weekly earnings in September, 1932	Per cent of change compared with—	
		August, 1932	September, 1931
Chemicals and allied products:			
Chemicals	$23.48	−1.5	−16.4
Fertilizers	12.57	−5.3	−20.6
Petroleum refining	27.58	−3.8	−11.9
Cottonseed oil, cake, and meal	10.83	−15.0	−29.2
Druggists' preparations	20.17	+1.5	−7.5
Explosives	18.18	−.5	−26.3
Paints and varnishes	21.47	+4.4	−17.0
Rayon	17.25	+5.4	−12.7
Soap	23.28	+1.5	−10.5
Stone, clay, and glass products:			
Cement	17.59	−4.8	−29.2
Brick, tile, and terra cotta	12.46	+.8	−29.7
Pottery	14.57	+6.4	−21.9
Glass	17.01	−3.2	−21.3
Marble, granite, slate, and other stone products	21.70	−1.3	−21.8
Nonferrous metals, and their products:			
Stamped and enameled ware	16.44	+6.8	−18.5
Brass, bronze, and copper products	16.13	+3.4	−21.4
Aluminum manufactures	14.27	+7.0	−30.1
Clocks, time-recording devices, and clock movements	14.21	+5.8	−23.7
Gas and electric fixtures	20.63	+4.2	−14.1
Plated ware	18.62	+5.9	−22.4
Smelting and refining—copper, lead, and zinc	17.03	+6.0	−19.8
Jewelry	18.99	+10.3	−16.7
Tobacco manufactures:			
Chewing and smoking tobacco and snuff	14.20	+4.6	−6.8
Cigars and cigarettes	12.66	(1)	−8.2
Transportation equipment:			
Automobiles	14.14	−22.0	−23.0
Aircraft	31.08	−3.4	+2.9
Cars, electric and steam railroad	17.72	−4.2	−15.2
Locomotives	19.29	−11.1	−27.5
Shipbuilding	21.95	+1.8	−12.7
Rubber products:			
Rubber tires and inner tubes	16.94	−13.3	−24.1
Rubber boots and shoes	17.28	+21.4	−8.4
Rubber goods, other than boots, shoes, tires, and inner tubes	18.18	+7.9	−11.8
Machinery, not including transportation equipment:			
Agricultural implements	15.20	−3.0	−6.7
Electrical machinery, apparatus, and supplies	19.36	+4.0	−21.5
Engines, turbines, tractors, and water wheels	18.39	−1.5	−.5
Cash registers, adding machines, and calculating machines	23.26	−.8	−2.4
Foundry and machine-shop products	15.40	−.1	−23.6
Machine tools	17.93	−1.0	−18.2
Textile machinery and parts	17.68	+7.6	−15.7
Typewriters and supplies	13.73	−1.9	−22.8
Radio	20.03	+15.7	−1.5
Railroad repair shops:			
Electric-railroad repair shops	25.46	−1.3	−11.7
Steam-railroad repair shops	20.53	−2.4	−20.7

[1] No change.

General Index Numbers of Employment and Pay-Roll Totals in Manufacturing Industries

GENERAL index numbers of employment and pay-roll totals in manufacturing industries by months, from January, 1926, to September, 1932, together with average indexes for each of the years from 1926 to 1931, and for the 9-month period, January to September, 1932, inclusive, are shown in the following table. In computing these general indexes, the index numbers of each of the separate industries are weighted according to their relative importance in the total. Following this table are two charts prepared from these general

indexes showing the course of employment and pay rolls for each of the years 1926 to 1931, inclusive, and for the months from January to September, 1932, inclusive.

TABLE 3.—GENERAL INDEXES OF EMPLOYMENT AND PAY ROLLS IN MANUFACTURING INDUSTRIES, JANUARY, 1926, TO SEPTEMBER, 1932

[12-month average, 1926=100]

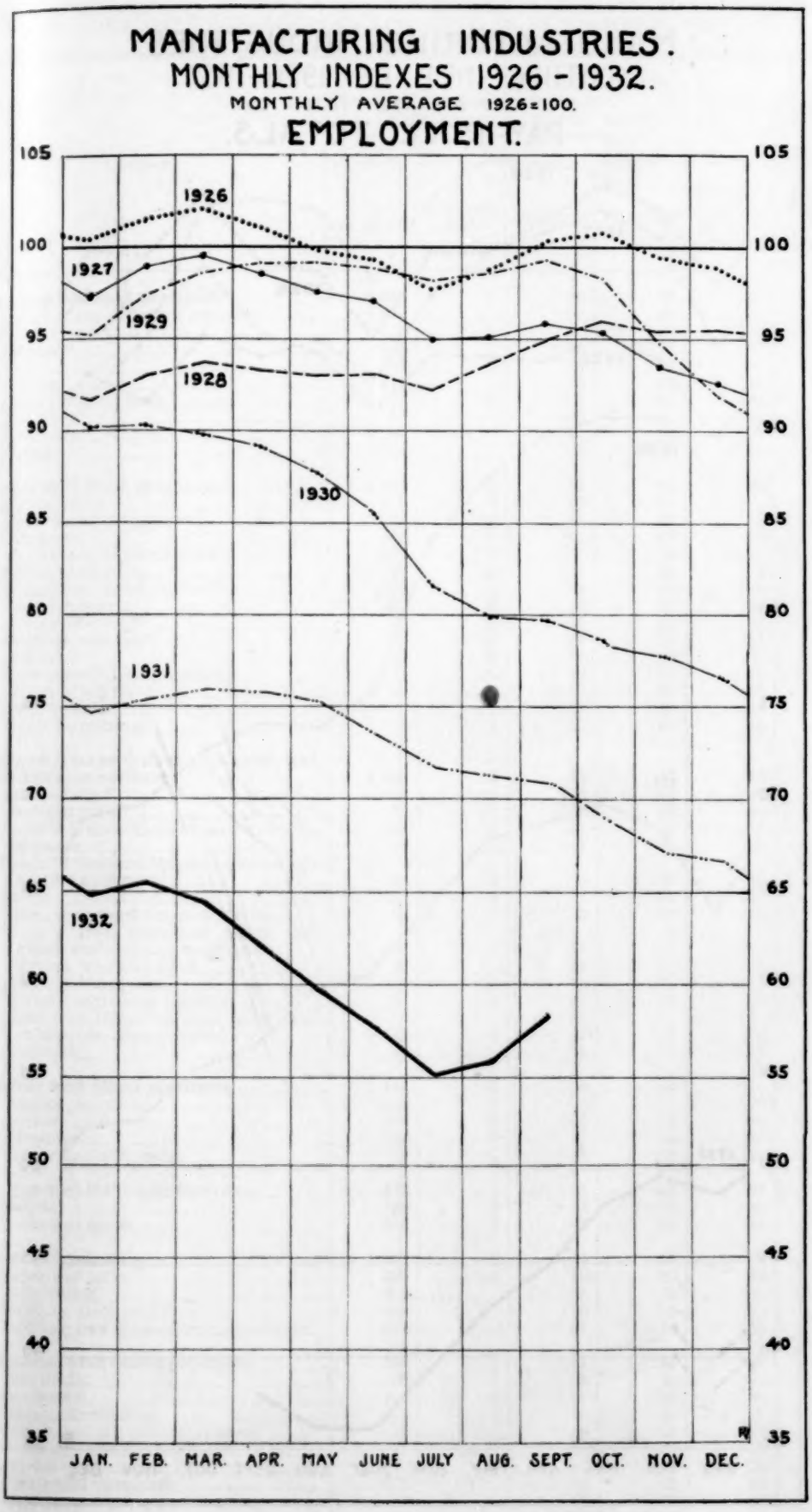
Month	Employment							Pay rolls						
	1926	1927	1928	1929	1930	1931	1932	1926	1927	1928	1929	1930	1931	1932
January	100.4	97.3	91.6	95.2	90.7	74.6	64.8	98.0	94.9	89.6	95.5	88.1	63.7	48.6
February	101.5	99.0	93.0	97.4	90.9	75.3	65.6	102.2	100.6	93.9	101.8	91.3	68.1	49.6
March	102.0	99.5	93.7	98.6	90.5	75.9	64.5	103.4	102.0	95.2	103.9	91.6	69.6	48.2
April	101.0	98.6	93.3	99.1	89.9	75.7	62.2	101.5	100.8	93.8	104.6	90.7	68.5	44.7
May	99.8	97.6	93.0	99.2	88.6	75.2	59.7	99.8	99.8	94.1	104.8	88.6	67.7	42.5
June	99.3	97.0	93.1	98.8	86.5	73.4	57.5	99.7	97.4	94.2	102.8	85.2	63.8	39.3
July	97.7	95.0	92.2	98.2	82.7	71.7	55.2	95.2	93.0	91.2	98.2	77.0	60.3	36.2
August	98.7	95.1	93.6	98.6	81.0	71.2	56.0	98.7	95.0	94.2	102.1	75.0	59.7	36.3
September	100.3	95.8	95.0	99.3	80.9	70.9	58.5	99.3	94.1	95.4	102.6	75.4	56.7	38.1
October	100.7	95.3	95.9	98.4	79.9	68.9	-----	102.9	95.2	99.0	102.4	74.0	55.3	-----
November	99.5	93.5	95.4	95.0	77.9	67.1	-----	99.6	91.6	96.1	95.4	69.6	52.5	-----
December	98.9	92.6	95.5	92.3	76.6	66.7	-----	99.8	93.2	97.7	92.4	68.8	52.2	-----
Average	**100.0**	**96.4**	**93.8**	**97.5**	**84.7**	**72.2**	[1] **60.4**	**100.0**	**96.5**	**94.5**	**100.5**	**81.3**	**61.5**	[1] **42.6**

[1] Average for 9 months.

Time Worked in Manufacturing Industries in September, 1932

REPORTS as to working time in September were received from 13,726 establishments in 89 manufacturing industries. Three per cent of these establishments were idle, 45 per cent operated on a full-time basis, and 52 per cent worked on a part-time schedule.

An average of 85 per cent of full-time operation in September was shown by reports received from all the operating establishments included in Table 4. The establishments working part time in September averaged 72 per cent of full-time operation.


MANUFACTURING INDUSTRIES.
MONTHLY INDEXES 1926 - 1932.
MONTHLY AVERAGE 1926=100.
EMPLOYMENT.
105
100
95
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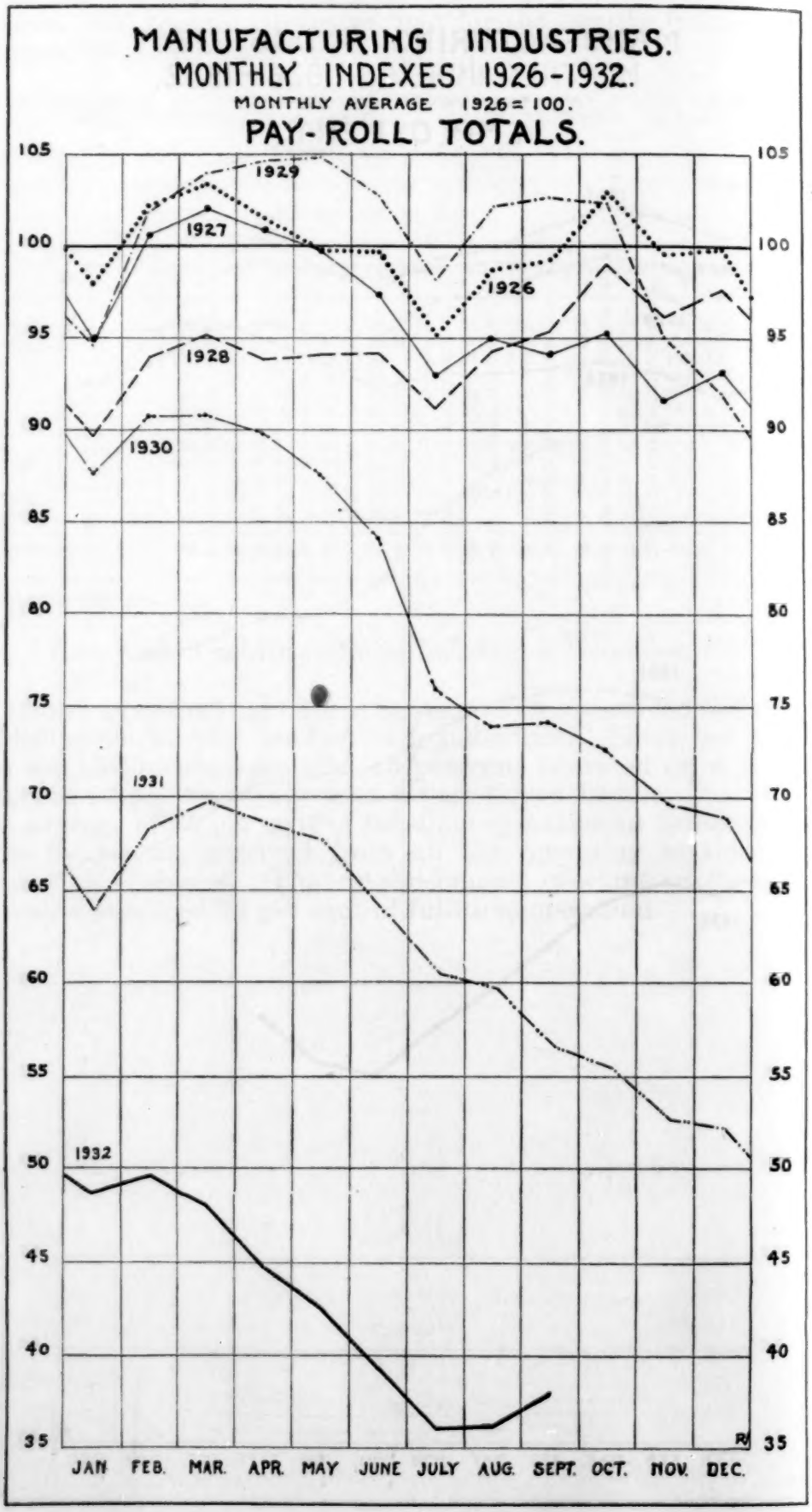
JAN. FEB. MAR. APR. MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC.


MANUFACTURING INDUSTRIES.
MONTHLY INDEXES 1926-1932.
MONTHLY AVERAGE 1926 = 100.
PAY-ROLL TOTALS.
105
100
95
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70
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JAN
FEB.
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JUNE
JULY
AUG.
SEPT.
OCT.
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TABLE 4.—PROPORTION OF FULL TIME WORKED IN **MANUFACTURING** INDUSTRIES BY ESTABLISHMENTS REPORTING IN SEPTEMBER, 1932

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Food and kindred products	**2,473**	**1**	**76**	**23**	**95**	**80**
Slaughtering and meat packing	172		77	23	97	87
Confectionery	255	2	51	47	90	78
Ice cream	330	1	80	19	97	83
Flour	396	1	70	29	93	76
Baking	679		86	14	97	80
Sugar refining, cane	13	15	23	62	82	75
Beet sugar	55		89	11	98	83
Beverages	288	(1)	71	28	93	75
Butter	285		83	17	98	86
Textiles and their products	**2,411**	**4**	**62**	**34**	**93**	**79**
Cotton goods	658	4	58	38	91	78
Hosiery and knit goods	389	3	68	30	94	81
Silk goods	217	7	71	22	95	77
Woolen and worsted goods	227	7	67	26	95	80
Carpets and rugs	25	8	24	68	75	66
Dyeing and finishing textiles	139	1	59	40	92	80
Clothing, men's	232	6	59	35	93	81
Shirts and collars	69	7	55	38	92	80
Clothing, women's	159	6	70	25	94	76
Millinery	89	6	74	20	96	82
Corsets and allied garments	24		50	50	90	79
Cotton small wares	99		35	65	87	80
Hats, fur-felt	26		62	38	94	79
Men's furnishings	58	2	57	41	90	76
Iron and steel and their products, not including machinery	**1,059**	**4**	**16**	**80**	**68**	**62**
Iron and steel	171	11	6	83	56	53
Cast-iron pipe	37	11	16	73	60	51
Structural and ornamental ironwork	134	2	11	87	71	68
Hardware	55		11	89	65	61
Steam fittings and steam and hot-water heating apparatus	82	2	6	91	59	56
Stoves	112	4	13	82	73	69
Bolts, nuts, washers, and rivets	63		13	87	65	60
Cutlery (not including silver and plated cutlery) and edge tools	105	1	24	75	75	67
Forgings, iron and steel	36		19	81	66	57
Plumbers' supplies	53	6	15	79	72	66
Tin cans and other tinware	50	4	62	34	94	82
Tools (not including edge tools, machine tools, files, or saws)	112	4	19	78	70	62
Wirework	49		16	84	74	69
Lumber and allied products	**1,114**	**6**	**25**	**69**	**78**	**70**
Lumber, sawmills	468	7	16	77	70	64
Lumber, millwork	285	5	20	75	80	75
Furniture	342	4	42	54	85	74
Turpentine and rosin	19	11	32	58	87	80
Leather and its manufactures	**373**	**2**	**43**	**55**	**87**	**77**
Leather	130	2	44	54	88	78
Boots and shoes	243	2	42	56	87	77
Paper and printing	**1,547**	**1**	**40**	**59**	**86**	**76**
Paper and pulp	320	4	30	66	80	71
Paper boxes	258		28	72	83	77
Printing, book and job	592	(1)	25	75	82	77
Printing, newspapers and periodicals	377		81	19	98	89
Chemicals and allied products	**797**	**2**	**54**	**44**	**91**	**81**
Chemicals	80	4	68	29	94	80
Fertilizers	145	3	63	33	93	80
Petroleum refining	74	4	72	24	97	87
Cottonseed oil, cake, and meal	41		59	41	95	89
Druggists' preparations	27		41	59	92	86
Explosives	17	6		94	76	76
Paints and varnishes	322	(1)	44	56	88	79
Rayon	13		62	38	92	80
Soap	78		64	36	94	81

[1] Less than one-half of 1 per cent.

TABLE 4.—PROPORTION OF FULL TIME WORKED IN **MANUFACTURING** INDUSTRIES BY ESTABLISHMENTS REPORTING IN SEPTEMBER, 1932—Continued

Industry	Establishments reporting		Per cent of establishments in which employees worked—		Average per cent of full time reported by—	
	Total number	Per cent idle	Full time	Part time	All operating establishments	Establishments operating part time
Stone, clay, and glass products	**774**	**13**	**36**	**51**	**79**	**65**
Cement	79	18	71	11	96	73
Brick, tile, and terra cotta	291	23	19	58	71	61
Pottery	89	7	20	73	71	63
Glass	129	7	68	25	93	73
Marble, granite, slate, and other stone products	186	2	32	66	80	70
Nonferrous metals and their products	**482**	**1**	**21**	**78**	**78**	**72**
Stamped and enameled ware	76	----	11	89	76	73
Brass, bronze, and copper products	137	1	17	82	74	69
Aluminum manufactures	20	----	25	75	82	76
Clocks, time-recording devices, and clock movements	20	5	20	75	70	62
Gas and electric fixtures, lamps, lanterns, and reflectors	44	----	25	75	80	73
Plated ware	46	----	20	80	79	74
Smelting and refining—copper, lead, and zinc	17	6	47	47	87	73
Jewelry	122	1	27	72	82	74
Tobacco manufactures	**197**	**5**	**20**	**76**	**78**	**73**
Chewing and smoking tobacco and snuff	27	----	33	67	81	71
Cigars and cigarettes	170	5	18	77	78	73
Transportation equipment	**287**	**5**	**28**	**67**	**78**	**69**
Automobiles	157	5	12	83	69	64
Aircraft	26	8	65	27	97	87
Cars, electric and steam railroad	30	10	20	70	78	72
Locomotives	9	----	11	89	82	80
Shipbuilding	65	3	55	42	92	82
Rubber products	**126**	**1**	**29**	**70**	**83**	**76**
Rubber tires and inner tubes	34	----	21	79	77	71
Rubber boots and shoes	8	13	----	88	86	86
Rubber goods, other than boots, shoes, tires, and inner tubes	84	----	36	64	86	77
Machinery, not including transportation equipment	**1,290**	**3**	**18**	**79**	**73**	**67**
Agricultural implements	64	11	27	63	78	69
Electrical machinery, apparatus, and supplies	186	----	14	86	75	71
Engines, turbines, tractors, and water wheels	68	----	12	88	73	70
Cash registers, adding machines, and calculating machines	35	6	49	46	86	72
Foundry and machine-shop products	746	2	18	80	71	64
Machine tools	120	6	12	83	74	70
Textile machinery and parts	32	3	25	72	78	71
Typewriters and supplies	12	----	25	75	70	60
Radio	27	----	30	70	87	81
Railroad repair shops	**796**	(1)	**45**	**54**	**89**	**81**
Electric-railroad repair shops	363	----	65	35	95	85
Steam-railroad repair shops	433	1	29	70	85	79
Total, 89 industries	**13,726**	**3**	**45**	**52**	**85**	**73**

[1] Less than one-half of 1 per cent.

Employment in Nonmanufacturing Industries in September, 1932

IN THE following table are presented employment and pay-roll data for 14 groups of nonmanufacturing industries the totals of which also appear in the summary table of employment and pay-roll totals.

TABLE 1.—COMPARISON OF EMPLOYMENT AND PAY ROLLS IN NONMANUFACTURING ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, AND SEPTEMBER, 1931

Industrial group	Establishments reporting in both August and September, 1932	Employment			Pay rolls			Index numbers September, 1932 (average, 1929=100)	
		Number on pay roll, September, 1932	Per cent of change		Amount of pay roll (1 week) September, 1932	Per cent of change		Employment	Pay-roll totals
			August to September, 1932	September, 1931, to September, 1932		August to September, 1932	September, 1931, to September, 1932		
Anthracite mining	160	76,361	+13.6	−30.2	$1,868,237	+13.6	−27.6	55.8	47.0
Bituminous coal mining	1,136	154,296	+5.1	−22.4	1,969,045	+14.4	−43.7	62.4	30.2
Metalliferous mining	256	18,840	+2.2	−47.2	346,328	+3.0	−57.5	29.3	17.0
Quarrying and nonmetallic mining	642	24,436	+2.4	−21.3	383,817	+2.7	−40.4	52.4	30.5
Crude petroleum producing	274	21,190	−2.1	−8.2	594,938	−2.4	−24.1	56.2	41.9
Telephone and telegraph	8,270	274,220	−1.0	−8.9	7,217,273	−4.0	−17.6	77.4	75.9
Power and light	3,563	217,549	−0.6	−14.5	6,288,599	−2.6	−20.8	81.0	74.7
Electric-railroad and motor-bus operation and maintenance	499	134,347	−0.8	−12.5	3,577,806	−2.0	−24.3	73.5	61.5
Wholesale trade	2,720	70,609	+0.9	−10.5	1,897,767	−0.1	−22.5	77.1	63.1
Retail trade	14,233	333,978	+7.2	−10.2	6,711,735	+6.3	−22.6	77.8	64.6
Hotels	2,590	138,610	−0.7	−15.0	1,862,217	−0.8	−27.8	77.0	59.1
Canning and preserving	941	89,706	+26.6	−30.4	956,747	+14.6	−42.0	125.3	75.1
Laundries	1,023	61,315	−0.4	−12.0	957,370	−1.6	−25.2	78.6	62.9
Dyeing and cleaning	379	12,382	+4.7	−12.6	228,202	+8.5	−26.2	83.3	61.0

Indexes of Employment and Pay-Roll Totals for Nonmanufacturing Industries

INDEX numbers of employment and pay-roll totals for 14 nonmanufacturing industries are presented in the following table. These index numbers show the variation in employment and pay rolls in these groups, by months, from January, 1929, to September, 1932, with the exception of the laundries and the dyeing and cleaning groups, for which information over the entire period is not available. The bureau recently secured data concerning employment and pay rolls for the index base year 1929 from establishments in the laundries and the dyeing and cleaning groups, and has computed index numbers for these two groups, which now appear in this tabulation. The monthly collection of trend-of-employment statistics in these two groups did not begin until the later months of 1930 and, therefore, indexes for each month of the entire period are not available.

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR NONMANUFACTURING INDUSTRIES, JANUARY TO DECEMBER, 1929, 1930, AND 1931, AND JANUARY TO SEPTEMBER, 1932

[12-month average, 1929=100]

Month	Anthracite mining								Bituminous coal mining							
	Employment				Pay rolls				Employment				Pay rolls			
	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932
January	105.7	102.1	90.6	76.2	100.7	105.8	89.3	61.5	106.4	102.5	93.9	80.8	106.1	101.4	73.3	47.0
February	106.0	106.9	89.5	71.2	122.1	121.5	101.9	57.3	107.7	102.4	91.5	77.4	116.6	102.1	68.3	47.0
March	98.0	82.6	82.0	73.7	90.8	78.5	71.3	61.2	106.8	98.6	88.8	75.2	108.6	86.4	65.2	46.8
April	100.7	84.1	85.2	70.1	88.3	75.0	75.2	72.0	100.2	94.4	85.9	65.5	89.2	81.7	58.6	33.9
May	103.7	93.8	80.3	66.9	99.0	98.8	76.1	58.0	96.6	90.4	82.4	62.6	91.9	77.5	54.4	30.7
June	92.9	90.8	76.1	53.0	80.7	94.3	66.7	37.4	94.7	88.4	78.4	60.5	90.0	75.6	52.4	27.3
July	83.2	91.6	65.1	44.5	64.7	84.0	53.7	34.5	94.1	88.0	76.4	58.6	85.6	68.9	50.4	24.4
August	91.1	80.2	67.3	49.2	78.4	78.8	56.4	41.4	95.7	89.2	77.0	59.4	92.8	71.1	50.6	26.4
September	101.9	93.8	80.0	55.8	103.8	91.6	64.9	47.0	97.2	90.5	80.4	62.4	98.6	74.9	53.6	30.2
October	106.1	99.0	86.8	-----	133.9	117.2	91.1	-----	98.8	91.8	81.3	-----	106.8	79.4	56.2	-----
November	104.0	97.2	83.5	-----	100.5	98.0	79.5	-----	101.0	92.5	81.1	-----	106.0	79.1	54.6	-----
December	107.1	99.1	79.8	-----	137.2	100.0	78.4	-----	101.4	92.5	81.2	-----	108.2	77.7	52.3	-----
Average	100.0	93.4	80.5	[1]62.3	100.0	95.3	75.4	[1]52.3	100.0	93.4	83.2	[1]66.9	100.0	81.3	57.5	[1]34.9

Month	Metalliferous mining								Quarrying and nonmetallic mining							
	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932
January	93.1	95.7	68.3	49.3	88.0	92.7	55.0	29.7	91.6	79.6	64.4	48.9	85.9	71.9	50.4	30.2
February	94.6	92.3	65.3	46.9	91.8	92.5	54.6	27.8	91.9	79.8	66.6	47.4	88.9	73.5	54.4	29.6
March	97.0	90.9	63.5	45.0	99.1	90.8	52.8	26.5	96.0	83.0	70.0	46.0	95.0	80.0	58.2	28.7
April	100.6	89.3	63.9	43.3	104.6	88.3	51.4	25.0	99.6	87.4	76.1	48.6	100.5	85.4	62.6	30.0
May	100.8	87.5	62.4	38.3	104.6	85.6	49.3	23.8	104.1	90.8	75.0	50.6	107.1	90.2	62.3	32.3
June	103.8	84.6	60.0	32.2	105.6	81.6	46.1	20.1	106.6	90.3	72.3	49.5	110.5	90.9	60.1	30.0
July	101.5	80.5	56.2	29.5	99.0	71.9	41.3	16.9	104.7	89.9	71.0	49.5	104.7	85.5	57.3	29.1
August	103.2	79.0	55.8	28.6	100.1	71.0	40.2	16.5	106.7	89.3	68.9	51.1	110.3	85.8	55.1	29.7
September	102.1	78.1	55.5	29.3	102.0	69.9	40.0	17.0	106.6	87.7	66.6	52.4	109.8	82.5	51.2	30.5
October	101.9	77.2	53.8	-----	103.1	68.6	37.4	-----	103.6	84.7	64.5	-----	105.8	79.3	48.7	-----
November	103.0	72.8	52.8	-----	102.2	63.4	35.1	-----	98.6	78.3	59.3	-----	96.0	66.8	43.3	-----
December	98.5	70.1	51.2	-----	99.7	59.9	34.3	-----	90.1	70.2	53.9	-----	85.4	59.9	36.9	-----
Average	100.0	83.2	59.1	[1]38.0	100.0	78.0	44.8	[1]22.6	100.0	84.3	67.4	[1]49.3	100.0	79.3	53.4	[1]30.0

Month	Crude petroleum producing								Telephone and telegraph							
	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932
January	90.0	92.7	74.8	54.9	93.1	94.0	71.5	46.5	94.3	101.6	90.5	83.0	94.5	105.1	96.3	89.1
February	90.4	90.8	73.2	54.4	99.0	88.6	70.0	46.9	95.3	100.2	89.2	82.0	93.0	101.9	94.8	89.6
March	89.6	89.3	72.2	51.4	97.4	91.3	73.2	43.2	96.5	99.4	88.6	81.7	98.7	105.8	97.9	88.2
April	97.6	86.8	69.8	54.9	96.7	86.6	66.3	44.5	97.8	98.9	88.1	81.2	98.3	103.4	95.0	83.4
May	93.9	89.8	67.8	54.5	92.4	85.4	64.7	47.1	100.4	99.7	87.4	80.6	99.4	103.2	94.1	82.8
June	104.1	90.2	65.0	54.2	99.4	87.1	62.7	44.8	101.5	99.8	86.9	79.9	100.0	103.4	95.0	82.1
July	106.0	89.9	65.3	55.4	100.7	88.5	59.2	44.6	102.6	100.0	86.6	79.1	104.1	106.6	93.3	79.6
August	113.2	87.7	62.4	57.4	104.7	86.0	56.3	42.9	103.7	98.8	85.9	78.1	101.8	102.5	92.3	79.1
September	108.9	85.0	61.2	56.2	110.7	84.0	55.2	41.9	102.5	96.8	85.0	77.4	100.4	102.2	92.1	75.9
October	107.9	85.2	60.4	-----	100.1	82.6	54.4	-----	101.9	94.5	84.1	-----	105.1	100.9	91.6	-----
November	101.1	83.6	57.6	-----	103.8	80.0	52.0	-----	101.9	93.0	83.5	-----	101.2	97.9	89.7	-----
December	97.0	77.4	58.2	-----	102.1	77.2	54.9	-----	101.8	91.6	83.1	-----	103.9	101.3	92.7	-----
Average	100.0	87.4	65.7	[1]54.8	100.0	85.9	61.7	[1]44.7	100.0	97.9	86.6	[1]80.3	100.0	102.9	93.7	[1]83.3

[1] Average for 9 months.

TABLE 2.—INDEXES OF EMPLOYMENT AND PAY ROLLS FOR **NONMANUFACTURING** INDUSTRIES, JANUARY TO DECEMBER, 1929, 1930, AND 1931, AND JANUARY TO SEPTEMBER, 1932—Continued

[12-month average, 1929=100]

Month	Power and light								Electric-railroad and motor-bus operation and maintenance [2]							
	Employment				Pay rolls				Employment				Pay rolls			
	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932	1929	1930	1931	1932
January	92.9	99.6	99.2	89.3	91.7	99.7	98.6	88.4	99.7	97.1	86.9	79.5	98.7	97.8	85.6	74.3
February	92.6	98.8	97.8	87.2	91.8	100.4	99.7	86.0	99.1	95.1	86.6	78.9	97.6	95.7	87.1	73.6
March	92.8	99.7	96.7	85.5	94.5	102.1	102.4	85.4	97.0	94.4	86.4	77.6	98.0	95.4	88.1	72.4
April	95.9	100.7	97.1	84.8	95.5	102.6	97.6	82.4	98.5	95.2	86.8	78.0	99.5	97.1	86.6	70.7
May	98.4	103.4	97.6	84.0	98.1	104.5	98.7	84.2	100.4	95.2	85.9	76.9	101.0	96.0	85.1	71.2
June	100.7	104.6	97.2	83.2	100.4	107.8	98.3	80.5	101.2	94.8	85.3	76.5	101.7	97.0	84.8	69.2
July	103.2	105.9	96.7	82.3	102.3	106.7	97.4	78.7	102.2	95.3	85.6	75.6	101.9	95.6	83.3	65.3
August	105.4	106.4	95.9	81.5	103.8	106.6	96.2	76.7	102.2	92.9	84.8	74.1	102.0	92.1	81.9	62.8
September	105.5	105.2	94.7	81.0	106.6	106.1	94.3	74.7	101.4	91.8	84.0	73.5	101.5	90.5	81.2	61.5
October	105.7	104.8	92.7	-----	106.0	105.6	93.2	-----	100.5	91.0	82.7	-----	100.0	88.9	79.0	-----
November	104.7	103.4	91.3	-----	104.1	103.7	93.3	-----	99.4	89.3	81.5	-----	98.4	87.7	79.7	-----
December	102.5	103.2	90.3	-----	105.8	106.3	91.2	-----	98.3	88.8	79.9	-----	99.8	88.6	77.8	-----
Average	100.0	103.0	95.6	[1] 84.3	100.0	104.3	96.7	[1] 81.9	100.0	93.4	84.7	[1] 76.7	100.0	93.5	83.4	[1] 69.0
	Wholesale trade								Retail trade							
January	97.7	100.0	89.5	81.8	96.7	100.0	87.5	74.1	99.2	98.9	90.0	84.3	99.0	99.7	89.4	78.0
February	96.9	98.5	88.2	80.9	96.4	98.3	88.4	72.5	94.6	94.4	87.1	80.5	94.5	96.0	86.7	73.7
March	97.3	97.7	87.4	79.8	98.5	99.7	89.1	71.3	96.2	93.9	87.8	81.4	96.1	95.5	87.5	73.4
April	97.9	97.3	87.4	78.9	97.8	97.9	85.2	68.9	95.5	97.3	90.1	81.6	96.0	97.5	88.3	72.7
May	99.0	96.8	87.1	77.9	99.0	97.4	84.7	69.7	97.3	96.7	89.9	80.9	97.1	97.3	88.0	71.1
June	99.2	96.5	87.1	77.0	98.6	98.6	84.1	66.2	97.4	93.9	89.1	79.4	98.6	96.8	87.6	68.2
July	100.4	96.0	86.8	76.6	100.5	96.0	83.3	64.7	93.6	89.0	83.9	74.6	95.9	91.7	83.3	63.3
August	101.3	95.0	86.5	76.4	100.0	93.6	82.1	63.2	93.6	85.6	81.8	72.6	95.2	87.6	80.3	60.7
September	101.9	94.8	86.1	77.1	103.3	93.6	81.4	63.1	97.6	92.0	86.6	77.8	99.2	92.4	83.5	64.6
October	102.9	94.2	85.2	-----	102.7	92.9	79.9	-----	101.7	95.5	89.8	-----	102.6	95.1	84.6	-----
November	102.9	92.6	84.1	-----	101.9	91.0	79.7	-----	106.7	98.4	90.9	-----	105.2	96.8	85.4	-----
December	102.6	92.0	83.7	-----	104.7	91.3	77.8	-----	126.2	115.1	106.2	-----	120.6	107.7	94.1	-----
Average	100.0	96.0	86.6	[1] 78.5	100.0	95.9	83.6	[1] 68.2	100.0	95.9	89.4	[1] 79.2	100.0	96.2	86.6	[1] 69.5
	Hotels								Canning and preserving							
January	97.1	100.4	95.0	83.2	98.5	100.3	91.0	73.9	50.8	46.1	48.9	35.0	57.3	50.3	46.1	31.8
February	99.8	102.4	96.8	84.3	102.0	103.8	93.7	73.9	48.9	45.7	48.3	37.1	59.2	51.5	48.6	32.7
March	100.9	102.4	96.8	84.0	103.4	104.4	93.4	72.4	49.4	49.7	53.0	36.3	54.9	50.8	50.3	31.9
April	99.7	100.1	95.9	82.7	100.6	100.3	89.9	69.6	90.6	74.8	59.6	47.0	98.9	72.6	57.1	37.9
May	98.1	98.0	92.5	80.1	98.9	98.4	87.7	67.0	62.0	65.7	56.0	40.5	71.2	66.9	56.0	36.0
June	99.3	98.0	91.6	78.0	98.7	98.1	85.4	63.8	76.6	83.0	70.6	55.5	71.9	81.5	58.6	40.5
July	101.1	101.3	93.3	78.4	99.8	99.8	85.2	61.8	126.8	126.3	102.2	73.0	109.2	112.7	74.2	47.5
August	102.6	101.5	92.8	77.6	99.4	98.6	83.8	59.6	184.8	185.7	142.9	99.0	180.1	172.0	104.7	65.6
September	102.8	100.1	90.6	77.0	100.2	97.1	81.9	59.1	210.1	246.6	180.1	125.3	207.9	214.8	129.4	75.1
October	100.6	97.5	87.4	-----	100.2	95.5	79.7	-----	143.3	164.7	108.1	-----	134.5	140.0	77.6	-----
November	100.0	95.2	84.9	-----	99.8	93.6	77.1	-----	95.1	96.7	60.8	-----	91.6	82.9	48.1	-----
December	97.7	93.5	83.1	-----	98.9	91.5	75.4	-----	61.3	61.6	40.7	-----	63.4	57.4	36.9	-----
Average	100.0	99.2	91.7	[1] 80.6	100.0	98.5	85.4	[1] 66.8	100.0	103.9	80.9	[1] 61.0	100.0	96.1	65.6	[1] 44.3
	Laundries								Dyeing and cleaning							
January	-----	-----	90.5	84.7	-----	-----	86.6	76.4	-----	-----	88.9	82.1	-----	-----	77.7	65.8
February	-----	-----	90.0	82.9	-----	-----	85.6	73.3	-----	-----	87.4	80.5	-----	-----	75.1	62.2
March	-----	-----	89.5	82.0	-----	-----	85.6	71.6	-----	-----	88.0	80.6	-----	-----	75.6	61.7
April	-----	-----	90.5	82.0	-----	-----	86.8	71.4	-----	-----	95.7	83.3	-----	-----	86.3	65.9
May	-----	-----	90.3	81.4	-----	-----	86.5	70.6	-----	-----	96.7	84.5	-----	-----	86.6	67.3
June	-----	-----	91.0	81.0	-----	-----	87.1	68.6	-----	-----	99.0	85.1	-----	-----	89.1	65.8
July	-----	-----	91.8	80.3	-----	-----	87.4	66.3	-----	-----	98.6	82.4	-----	-----	86.2	60.0
August	-----	-----	90.2	78.9	-----	-----	84.6	63.9	-----	-----	93.5	79.5	-----	-----	80.0	56.3
September	-----	-----	89.3	78.6	-----	-----	84.1	62.9	-----	-----	95.3	83.3	-----	-----	82.6	61.0
October	-----	-----	88.1	-----	-----	-----	81.8	-----	-----	-----	94.2	-----	-----	-----	81.4	-----
November	-----	-----	86.2	-----	-----	-----	78.9	-----	-----	-----	90.1	-----	-----	-----	74.7	-----
December	-----	-----	85.3	-----	-----	-----	77.4	-----	-----	-----	84.9	-----	-----	-----	67.9	-----
Average	100.0	-----	89.4	[1] 81.4	100.0	-----	84.4	[1] 69.4	100.0	-----	92.7	[1] 82.4	100.0	-----	80.3	[1] 62.9

[1] Average for 9 months.

[2] Not including electric-railroad car building and repairing; see transportation equipment and railroad repair-shop groups, manufacturing industries, Table 1.

Trend of Employment in September, 1932, by States

IN THE following table are shown the fluctuations in employment and pay-roll totals in September, as compared with August, 1932, in certain industrial groups by States. These tabulations have been prepared from data secured directly from reporting establishments and from information supplied by cooperating State agencies. The combined total of all groups does not include building construction data, information concerning which is published elsewhere in a separate tabulation by city and State totals. In addition to the combined total of all groups, the trend of employment and pay rolls in the manufacturing, public utility, hotel, wholesale trade, retail trade, bituminous coal mining, crude petroleum producing, quarrying and nonmetallic mining, metalliferous mining, laundries, and dyeing and cleaning groups are presented. In this State compilation, the totals of the telephone and telegraph, power and light, and electric-railroad operation groups have been combined and are presented as one group—public utilities. Due to the extreme seasonal fluctuations in the canning and preserving industry, and the fact that during certain months the activity in this industry in a number of States is negligible, data for this industry are not presented separately. The number of employees and the amount of weekly earnings in August and September as reported by identical establishments in this industry are included, however, in the combined total of "All groups."

The per cents of change shown in the accompanying tables, unless otherwise noted, are unweighted per cents of change; that is, the industries included in the groups and the groups comprising the total of all groups, have not been weighted according to their relative importance in the combined totals.

As the anthracite mining industry is confined entirely to the State of Pennsylvania, the changes reported in this industry in the summary table are the fluctuations in this industry by State total.

When the identity of any reporting company would be disclosed by the publication of a State total for any industrial group, figures for the group do not appear in the separate industrial-group tabulation but are included in the State totals for "All groups." Data are not presented for any industrial group when the representation in the State covers less than three establishments.

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Total—all groups					Manufacturing				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	475	47,679	+1.4	$517,116	+6.8	213	32,950	+2.3	$353,748	+9.0
Arkansas	[1] *447*	*14,428*	*+3.5*	*208,574*	*+5.4*	*180*	*9,642*	*+5.5*	*120,378*	*+10.1*
Arizona	370	7,529	−5.7	153,224	−4.7	61	1,847	−5.7	38,283	−5.3
California	*1,470*	*228,512*	*−3.2*	*5,199,853*	*−5.1*	*1,159*	*142,039*	*−5.7*	*3,068,826*	*−7.0*
Colorado	745	28,041	+5.0	566,476	+4.8	122	9,416	−2.3	186,525	−.5
Connecticut	1,067	126,810	+7.8	2,309,411	+10.7	659	107,486	+8.9	1,810,132	+13.5
Delaware	124	9,297	+17.8	176,037	+12.7	50	5,733	+4.1	113,596	+6.2
Dist. of Columbia	[2] 635	31,050	+2.6	759,240	+.9	56	3,867	−.9	133,300	+.7
Florida	498	21,204	+1.7	330,179	−1.9	134	13,648	+2.0	168,789	−3.4
Georgia	636	68,877	+9.4	856,258	+11.5	311	55,582	+11.0	594,252	+18.3
Idaho	204	7,661	−2.5	140,651	−4.3	44	4,457	−2.5	77,572	−6.6
Illinois	[3] *1,480*	*265,995*	*+1.1*	*5,501,599*	*+1.0*	*998*	*166,423*	*+1.8*	*2,986,396*	*+2.6*
Indiana	1,224	114,293	+6.8	1,940,606	+5.4	583	78,122	+.7	1,331,475	+3.7
Iowa	1,174	43,518	+2.8	807,977	+2.2	467	23,241	+1.5	421,326	+2.9
Kansas	[4] *1,068*	*63,280*	*+1.9*	*1,458,841*	*+.8*	*447*	*24,988*	*+2.9*	*529,533*	*+2.1*
Kentucky	805	56,920	+3.7	856,842	+4.9	214	20,278	+3.1	321,842	+4.6
Louisiana	504	29,330	+2.9	455,346	+.8	213	17,313	+.8	243,160	+2.6
Maine	582	40,277	+10.9	675,839	+11.3	187	31,111	+10.5	506,482	+14.8
Maryland	[2] *822*	*73,084*	*+3.0*	*1,385,709*	*+3.9*	*439*	*47,727*	[5] *+3.6*	*829,959*	[5] *+3.4*
Massachusetts	[6] *7,764*	*337,358*	*+5.1*	*7,166,103*	*+5.5*	*1,080*	*158,809*	*+9.8*	*2,833,374*	*+13.2*
Michigan	1,527	238,173	−8.0	3,835,437	−23.9	*400*	*171,084*	*−11.4*	*2,526,941*	*−31.5*
Minnesota	1,054	62,080	+5.4	1,258,893	+2.3	280	29,591	+5.7	585,908	+4.7
Mississippi	390	9,029	+7.0	112,260	+5.3	77	5,292	+15.2	55,756	+19.3
Missouri	1,127	99,744	+2.5	2,009,081	+1.1	523	55,956	+2.4	1,041,277	+2.6
Montana	326	6,496	+2.1	151,827	+2.4	51	2,032	+5.2	43,294	+2.7
Nebraska	678	22,108	+4.5	468,426	+1.9	132	10,991	+5.1	234,562	+5.8
Nevada	130	1,394	−1.5	37,290	−4.9	24	299	−2.9	8,474	−7.3
New Hampshire	459	36,089	+11.4	590,282	+12.6	184	31,143	+13.0	487,902	+16.1
New Jersey	1,462	178,835	+ 2.5	3,915,279	+4.3	[7] *705*	*161,665*	*+4.2*	*3,443,461*	*+7.0*
New Mexico	177	4,313	+.7	74,509	−1.4	20	189	+4.4	4,113	+2.2
New York	3,466	470,688	+4.6	11,133,164	+5.6	[8] *1,639*	*303,752*	*+6.4*	*6,834,586*	*+9.4*
North Carolina	905	106,541	+8.4	1,256,248	+18.0	559	101,846	+8.9	1,181,994	+19.5
North Dakota	312	3,678	−1.7	80,040	−4.8	60	1,257	−3.0	29,406	−5.1
Ohio	4,746	347,329	+3.4	6,229,606	+3.6	1,959	249,358	+2.8	4,272,303	+4.2
Oklahoma	717	25,413	+1.7	527,826	+1.1	126	8,871	+1.2	180,046	+1.6
Oregon	691	28,857	+13.4	519,515	+5.7	153	13,159	+1.0	219,628	−.8
Pennsylvania	4,090	573,384	+4.2	9,930,833	+5.7	*1,715*	*316,281*	*+3.9*	*4,660,170*	*+6.5*
Rhode Island	907	53,027	+13.5	981,972	+18.9	264	41,798	+18.0	722,126	+28.4
South Carolina	326	45,382	+18.2	431,827	+20.7	173	41,684	+19.3	377,268	+24.8
South Dakota	236	5,534	−[9]	128,010	−.2	49	2,020	−.5	37,350	+3.4
Tennessee	732	59,301	+9.2	804,905	+9.8	278	43,045	+10.8	560,281	+14.1
Texas	*787*	*59,723*	*+1.9*	*1,322,228*	*+1.2*	*366*	*30,978*	*+2.8*	*621,787*	*+1.2*
Utah	334	12,728	+8.2	224,396	+6.5	88	3,578	+4.4	70,803	+3.8
Vermont	362	9,759	+10.0	180,681	+8.4	117	5,120	+17.6	92,593	+14.3
Virginia	1,280	71,790	+10.5	1,136,613	+12.1	434	51,023	+12.3	795,974	+18.0
Washington	1,132	52,356	+10.0	1,008,409	+4.5	273	23,205	+.5	421,343	+[9]
West Virginia	736	76,034	+3.5	1,171,660	+7.0	187	29,372	+6.6	485,046	+12.1
Wisconsin	[10] *1,090*	*128,830*	*+1.2*	*2,013,864*	*+2.2*	*811*	*93,686*	[5] *+1.6*	*1,410,059*	[5] *+2.0*
Wyoming	189	6,222	+10.1	150,022	+11.5	28	1,303	−3.1	38,951	−4.4

[1] Includes auto dealers and garages, and sand, gravel, and building construction.
[2] Includes banks, insurance, and office employment.
[3] Includes building and contracting.
[4] Includes transportation, financial institutions, restaurants, and building construction.
[5] Weighted per cent of change.
[6] Includes construction, municipal, agricultural, and office employment, amusement and recreation, professional and transportation services.
[7] Includes laundries.
[8] Includes laundering and cleaning.
[9] Less than one-tenth of 1 per cent.
[10] Includes construction, but does not include hotels and restaurants.

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Wholesale trade					Retail trade				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	15	551	+.7	$12,626	−10.3	22	2,163	+9.3	$32,143	+10.9
Arkansas	*17*	*448*	*−3.4*	*12,314*	*−6.3*	*132*	*1,619*	*+3.3*	*29,216*	*+3.2*
Arizona	22	189	+3.3	4,963	−.4	179	1,376	+.7	23,688	−2.2
California	*75*	*5,450*	*−.1*	*158,822*	*+.1*	*120*	*27,168*	*+5.1*	*547,484*	*+4.1*
Colorado	29	845	+.4	23,498	+.8	273	4,091	+6.3	87,254	+5.2
Connecticut	59	1,235	−.3	34,858	+(9)	121	4,991	+4.9	103,491	+2.9
Delaware	9	162	−1.2	4,518	−5.0	10	110	−.9	2,146	+8.4
District of Columbia	29	398	+.3	12,696	−1.4	404	10,635	+8.4	227,291	+8.8
Florida	46	730	+1.2	17,752	−1.7	69	804	+3.5	14,964	+.9
Georgia	32	406	+1.5	11,272	+1.2	32	2,014	+5.7	33,153	+6.2
Idaho	7	113	−.9	3,103	−7.3	69	676	−8.0	13,022	−4.4
Illinois	*14*	*847*	*−1.6*	*21,326*	*+2.0*	*59*	*16,606*	*−.2*	*390,421*	*−2.4*
Indiana	62	1,193	−.6	30,901	−.1	196	6,245	+8.2	109,181	+7.2
Iowa	35	1,034	−.4	26,587	−.3	126	3,092	+1.5	54,987	+2.7
Kansas	*72*	*1,949*	*+.5*	*50,252*	*+1.0*	*334*	*5,875*	*+3.3*	*108,839*	*+2.5*
Kentucky	23	520	+1.4	10,454	−2.7	28	1,496	+7.5	23,564	+9.4
Louisiana	31	758	+.1	31,328	−7.0	54	2,974	+5.4	44,383	+8.1
Maine	15	414	−3.0	9,828	−6.0	78	1,121	+2.1	20,155	−.7
Maryland	*32*	*733*	*−6.6*	*16,433*	*−6.1*	*35*	*4,919*	*+5.4*	*79,925*	*+2.0*
Massachusetts	*672*	*14,284*	*+1.5*	*386,864*	*+1.5*	*3,955*	*55,913*	*+3.5*	*1,173,022*	*+4.4*
Michigan	63	1,798	+.5	52,051	+.9	226	11,278	+12.8	216,853	+2.7
Minnesota	62	3,933	+.8	109,435	+.8	344	7,716	+19.2	131,542	+10.8
Mississippi	5	117	+1.7	2,335	−.2	61	475	+8.7	5,317	+4.5
Missouri	60	5,223	+2.5	129,383	+2.5	135	5,857	+9.5	122,134	+10.1
Montana	13	213	−2.7	6,178	−3.3	83	716	+2.9	16,503	+.8
Nebraska	38	950	−1.0	25,915	−1.9	160	1,644	+5.2	31,219	+3.0
Nevada	7	67	−2.9	2,550	−6.4	30	263	+4.0	7,056	+3.1
New Hampshire	17	197	−.5	5,161	−2.8	60	594	+2.6	10,424	+.4
New Jersey	25	472	−1.5	14,180	−1.9	415	7,499	+9.6	164,143	+11.0
New Mexico	7	113	−10.3	3,796	−9.6	51	286	−.3	5,976	−3.1
New York	184	5,217	+.9	161,014	+1.0	515	47,881	+16.8	1,100,967	+20.3
North Carolina	19	259	+.8	6,077	−2.9	175	575	+3.6	11,254	+3.0
North Dakota	16	223	+.9	6,556	+1.7	38	388	+8.4	6,720	+17.5
Ohio	238	5,111	+1.8	134,211	+1.1	1,551	30,377	+7.2	574,102	+5.5
Oklahoma	56	820	+1.6	20,677	−3.1	120	2,021	+14.8	34,045	+9.1
Oregon	53	1,303	+2.7	35,514	−.3	225	2,237	+3.6	43,586	+1.3
Pennsylvania	136	3,259	−.3	86,812	−1.1	341	23,842	+4.3	454,315	+.6
Rhode Island	39	874	+1.6	22,399	+3.9	518	4,890	+.2	106,275	+1.5
South Carolina	17	216	−.9	5,512	−3.1	22	737	+16.8	6,218	+10.7
South Dakota	10	128	−.8	3,803	+.1	21	199	−13.5	3,832	−.3
Tennessee	38	730	+1.7	15,415	−.4	58	3,451	+15.0	56,078	+11.5
Texas	*120*	*2,591*	*+4.0*	*71,225*	*+3.5*	*89*	*7,963*	*+12.1*	*143,982*	*+9.4*
Utah	16	500	+1.2	11,742	−3.7	80	567	+8.8	12,508	−5.2
Vermont	4	89	−1.1	2,418	−1.4	40	444	+3.7	7,236	−5.3
Virginia	49	915	+11.6	23,369	−1.6	480	4,571	+6.3	81,815	+4.3
Washington	95	2,276	+2.4	60,944	−3.3	404	6,151	+8.4	118,302	+8.0
West Virginia	37	604	+2.5	16,322	−1.5	50	919	+.4	15,625	−4.0
Wisconsin	*46*	*1,808*	*−4.0*	*41,041*	*−3.3*	*53*	*7,178*	*+5.1*	*114,373*	*+4.6*
Wyoming	8	56	−1.8	1,748	+.5	48	248	−1.6	6,533	−1.9

[9] Less than one-tenth of 1 per cent.

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Quarrying and nonmetallic mining					Metalliferous mining				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	7	526	−18.1	$5,406	+1.9	6	689	+1.3	$3,399	−19.1
Arkansas	10	151	(11)	1,932	+7.6					
Arizona						15	2,118	−11.8	43,357	−2.6
California	35	706	+1.0	12,887	−6.2	28	1,865	+2.2	49,890	+.3
Colorado						15	637	+6.7	15,872	+2.3
Connecticut	10	195	−9.3	2,910	−5.3					
Delaware										
District of Columbia										
Florida	8	596	−3.4	6,523	+3.1					
Georgia	18	1,022	+10.6	10,111	+11.8					
Idaho						10	1,398	+.5	28,934	−1.7
Illinois	25	630	+4.7	12,728	+17.4					
Indiana	39	1,810	−8.6	30,795	−10.9					
Iowa	17	424	+13.1	8,680	+38.7					
Kansas	*19*	*661*	*+3.8*	*13,800*	*−4.3*	*8*	*247*	*+461.4*	*3,195*	*+243.0*
Kentucky	28	1,155	+22.1	10,932	+49.8					
Louisiana	4	543	+9.7	5,294	+19.8					
Maine	8	425	+16.4	9,826	+25.8					
Maryland	*16*	*299*	*−7.7*	*4,100*	*−24.9*					
Massachusetts	17	401	+8.4	8,857	+2.3					
Michigan	23	1,133	+71.1	15,671	+73.2	38	4,081	+6.5	44,033	+6.6
Minnesota	6	168	−10.2	3,368	−10.9	21	510	−18.8	8,221	−5.4
Mississippi	4	49	−27.9	755	+4.4					
Missouri	13	290	+2.8	3,740	+12.6	12	1,039	+1.7	18,454	−2.4
Montana	3	13	−40.9	188	−39.0	15	84	−16.0	1,660	−16.8
Nebraska	3	100	+9.9	1,235	−9.1					
Nevada						14	147	−2.0	4,275	−8.5
New Hampshire	9	188	+11.9	5,446	+1.7					
New Jersey	3	23	(11)	498	−13.2					
New Mexico						5	848	+.2	16,103	−.6
New York	45	2,155	+2.5	44,116	−.7					
North Carolina	7	55	−42.1	806	−31.2					
North Dakota										
Ohio	65	1,872	−4.2	30,176	−4.6					
Oklahoma	4	63	+6.8	794	+8.5	26	764	+37.7	12,398	+50.6
Oregon						6	71	−26.0	1,141	−46.5
Pennsylvania	55	2,690	+2.4	32,631	+2.6					
Rhode Island										
South Carolina	8	154	+10.8	514	−21.0					
South Dakota	5	71	+77.5	1,222	+47.6					
Tennessee	22	1,080	(11)	12,767	−6.0	4	183	−5.7	2,553	+7.6
Texas	*21*	*679*	*−18.9*	*15,765*	*−17.3*					
Utah						10	2,046	+2.6	37,012	+20.3
Vermont	39	2,173	+4.5	43,579	+5.5					
Virginia	16	1,005	+10.6	9,325	−7.2					
Washington	8	198	+10.6	5,117	+22.0					
West Virginia	7	253	−36.6	2,562	−23.5					
Wisconsin	*13*	*112*	*−5.9*	*1,115*	*−30.5*					
Wyoming										

[11] No change.

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Bituminous coal mining					Crude petroleum producing				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	37	6,811	−2.3	$51,392	+9.6					
Arkansas	*5*	*88*	*−1.1*	*1,640*	*−.1*	9	215	−5.3	$5,253	−1.5
Arizona										
California						58	3,890	+1.0	118,211	−3.4
Colorado	40	4,232	+38.6	66,646	+60.6					
Connecticut										
Delaware										
District of Columbia										
Florida										
Georgia										
Idaho										
Illinois	*21*	*1,807*	*+4.3*	*31,187*	*+34.8*	9	203	−1.0	4,445	−4.4
Indiana	38	3,060	+46.0	64,157	+18.6	4	21	−22.2	323	−15.7
Iowa	21	2,017	+3.3	37,863	+12.0					
Kansas	*22*	*828*	*+32.5*	*13,856*	*+27.6*	33	1,264	+.9	29,953	−.2
Kentucky	134	22,723	+3.4	284,435	+8.7	5	185	+6.9	3,417	−2.6
Louisiana						10	208	+10.6	5,672	+14.1
Maine										
Maryland	*14*	*1,450*	*+4.0*	*10,470*	*+45.1*					
Massachusetts										
Michigan	3	618	+151.2	7,067	+166.5					
Minnesota										
Mississippi										
Missouri	18	1,233	+34.6	19,205	+30.9					
Montana	10	768	+57.4	19,394	+97.6	5	51	+2.0	1,233	−.2
Nebraska										
Nevada										
New Hampshire										
New Jersey										
New Mexico	12	1,680	−.5	23,901	−2.7	4	28	−3.4	880	+1.7
New York						6	195	−2.5	4,750	−.8
North Carolina										
North Dakota										
Ohio	57	6,063	+12.0	92,176	+20.2	6	50	−3.8	840	−.4
Oklahoma	17	483	+9.8	9,280	+81.1	63	4,420	−2.1	114,480	−2.0
Oregon										
Pennsylvania	362	51,790	+.1	581,140	+9.5	22	562	+2.2	13,847	−.3
Rhode Island										
South Carolina										
South Dakota										
Tennessee	12	2,153	+.7	17,999	+20.2					
Texas						*3*	*7,058*	*−6.3*	*239,738*	*+.7*
Utah	14	1,522	+16.8	28,818	+25.3					
Vermont										
Virginia	26	3,955	+3.2	41,205	+10.1					
Washington	10	1,250	+199.8	25,681	+192.1					
West Virginia	242	36,337	+2.4	464,090	+7.6	7	344	+9.2	7,379	−4.7
Wisconsin										
Wyoming	32	3,702	+19.7	83,611	+27.0	6	77	+4.1	2,386	+7.8

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Public utilities					Hotels				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent or change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	123	1,940	−1.3	$40,702	−3.5	30	1,225	+.9	$10,112	−3.2
Arkansas	*49*	*1,145*	*−1.8*	*27,936*	*−.9*	*17*	*809*	*−1.3*	*8,995*	*+.8*
Arizona	67	1,270	−4.6	31,897	−10.1	12	294	−1.7	4,406	−.8
California	*41*	*48,105*	*−.8*	*1,316,797*	*−4.9*	274	11,274	−3.4	179,394	−6.9
Colorado	196	5,524	−1.6	140,168	−3.1	32	1,083	−6.6	17,299	−7.0
Connecticut	145	10,043	−.4	313,624	+1.2	32	1,084	+1.5	14,057	+.2
Delaware	28	1,146	+3.0	33,570	+12.6	6	244	−2.0	2,813	−3.8
District of Columbia	22	8,350	+.8	235,112	−4.0	51	3,524	−.3	51,065	−.5
Florida	185	4,226	+.6	109,177	−1.1	36	707	+5.5	7,752	+5.1
Georgia	186	6,821	+.2	183,343	−5.0	34	1,493	+2.3	12,528	+3.7
Idaho	55	667	−3.6	13,210	+.8	16	248	−2.0	3,428	−2.3
Illinois	*64*	*67,197*	*−.5*	*1,822,415*	*−1.3*	[12] *45*	*7,736*	*−2.4*	*124,505*	*+2.3*
Indiana	149	10,163	+1.5	231,532	−6.5	61	2,772	−3.0	31,287	+5.0
Iowa	430	10,171	+.3	223,526	−3.1	52	2,096	+5.8	21,005	+2.4
Kansas	*26*	*7,084*	*+1.6*	*166,266*	*+.2*	*36*	*682*	*+1.6*	*7,552*	*+3.4*
Kentucky	304	7,099	(9)	164,827	−2.1	38	1,772	+4.5	18,890	+4.9
Louisiana	154	4,347	−2.6	99,823	−6.4	24	1,847	+.3	20,036	+1.1
Maine	171	2,963	+2.8	80,288	−.7	33	1,369	−24.1	17,622	−27.1
Maryland	*83*	*12,532*	*−.1*	*358,441*	*−.4*	*26*	*1,395*	*+2.7*	*18,673*	*+4.4*
Massachusetts	[13] *138*	*46,203*	*+1.0*	*1,305,363*	*−.3*	*105*	*5,433*	*−6.5*	*77,857*	*−4.6*
Michigan	411	22,575	−2.5	664,237	+1.4	79	4,313	−2.5	54,876	−2.3
Minnesota	233	13,150	−.4	336,575	−4.8	59	2,755	−2.7	34,413	−1.5
Mississippi	210	2,092	−3.8	39,265	−6.7	20	566	−5.7	4,624	−6.6
Missouri	222	22,016	−1.0	573,513	−4.5	80	4,303	+2.6	50,117	+1.9
Montana	111	1,852	−2.7	51,207	−8.0	17	281	+4.1	4,080	−.1
Nebraska	299	5,848	+.4	147,029	−5.0	32	1,522	−.9	16,931	+9.9
Nevada	39	365	−3.2	10,140	−5.0	12	195	−2.0	3,522	−7.5
New Hampshire	143	2,155	+1.1	58,351	−2.2	27	1,440	+4.2	17,219	+1.7
New Jersey	280	23,218	−.6	684,799	−1.2	99	5,924	−8.6	75,785	−10.5
New Mexico	55	598	+9.3	12,377	+1.5	16	311	−1.3	3,371	+1.4
New York	904	108,559	−1.1	3,317,559	−2.1	283	31,014	+2.2	485,088	+2.8
North Carolina	96	1,805	−.2	36,385	−5.0	35	1,238	−4.8	11,749	+2.2
North Dakota	170	1,243	−2.9	29,479	−9.9	17	322	−3.6	3,533	−5.1
Ohio	493	34,039	−1.4	855,481	−3.3	170	9,418	+.1	122,056	+1.7
Oklahoma	247	6,271	−.4	137,612	−3.7	41	772	−2.6	7,327	−2.5
Oregon	187	5,839	+.4	146,763	−2.6	37	1,062	−1.0	14,911	−2.7
Pennsylvania	705	61,059	−.2	1,649,093	−3.1	196	10,186	+.3	129,966	+2.2
Rhode Island	35	3,521	+1.1	99,422	−4.3	25	509	−26.2	6,603	−18.7
South Carolina	71	1,694	+.5	35,333	−3.3	17	405	+3.8	2,565	−7.7
South Dakota	128	979	−3.3	25,035	−7.4	14	310	−.6	3,775	+2.6
Tennessee	254	4,992	−.6	108,752	−4.4	40	2,107	−1.0	18,644	−6.0
Texas	*133*	*6,790*	*−.9*	*185,641*	*−2.3*	*55*	*3,664*	*−.1*	*44,090*	*−1.1*
Utah	69	1,867	+1.6	37,193	−4.0	11	359	−.8	4,808	+3.7
Vermont	121	979	−2.0	23,747	−.5	29	702	−9.1	7,641	−9.8
Virginia	179	5,883	−1.2	141,174	−4.7	37	2,057	+3.4	22,857	+.8
Washington	205	9,849	−3.4	266,304	−4.8	58	2,055	−.6	25,177	−1.1
West Virginia	133	6,118	−.1	155,151	−3.7	42	1,141	−.8	12,860	−.4
Wisconsin	[14] 42	11,184	+.2	303,442	−1.8	45	1,292	−1.1	(15)	
Wyoming	48	440	+.7	10,626	−4.1	12	186	−3.1	2,907	−.2

[9] Less than one-tenth of 1 per cent.
[12] Includes restaurants.
[13] Includes steam railroads.
[14] Includes railways and express.
[15] Data not supplied.

COMPARISON OF EMPLOYMENT AND PAY ROLLS IN **IDENTICAL** ESTABLISHMENTS IN AUGUST AND SEPTEMBER, 1932, BY STATES—Continued

[Figures in italics are not compiled by the Bureau of Labor Statistics, but are taken from reports issued by cooperating State organizations]

State	Laundries					Dyeing and cleaning				
	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change	Number of establishments	Number on pay roll September, 1932	Per cent of change	Amount of pay roll (1 week) September, 1932	Per cent of change
Alabama	5	483	−.4	$4,208	−2.8	4	194	−1.0	$1,879	−1.7
Arkansas	*19*	*500*	*−1.8*	*4,908*	*−4.2*					
Arizona	10	393	−.3	5,793	−1.5					
California	[16]*75*	*5,750*	−[9]	*107,924*	*−.9*					
Colorado	11	862	+.5	12,522	−2.0	9	142	+7.6	2,737	+6.9
Connecticut	28	1,351	+.3	22,488	−4.1	12	291	+1.7	6,494	+3.5
Delaware	4	317	+.6	4,882	+1.3	3	36	[11]	622	+7.2
District of Columbia	20	2,680	−1.7	42,195	−3.6	6	133	+2.3	2,754	+2.6
Florida	8	381	−3.3	3,838	−2.1	3	33	+3.1	408	−8.1
Georgia	12	664	−1.2	6,306	−2.7	3	127	+5.8	1,439	+6.8
Idaho										
Illinois	[16]*21*	*1,338*	*−.4*	*19,675*	*−2.5*					
Indiana	19	1,534	−2.7	20,215	−2.3	9	181	+13.1	3,115	+15.0
Iowa	3	218	−.5	3,438	−.7					
Kansas	[16]*38*	*814*	*−.2*	*10,047*	*−2.0*					
Kentucky	15	742	−1.1	9,403	−4.0	5	229	+2.2	3,551	+6.8
Louisiana										
Maine	20	498	−5.0	7,445	−10.2					
Maryland	*24*	*1,884*	*−.9*	*28,843*	*−1.8*	*11*	*452*	*+18.6*	*6,972*	*+39.4*
Massachusetts	*105*	*5,696*	*+2.4*	*62,455*	*+1.3*	*121*	*2,017*	*+4.9*	*36,995*	*+4.7*
Michigan	24	1,676	−2.1	21,584	−9.4	16	610	+8.5	11,059	+15.9
Minnesota	16	823	−2.5	13,733	−1.8	10	275	+6.6	5,054	+7.9
Mississippi	5	304	−2.9	2,648	−7.2					
Missouri	35	2,478	−1.5	35,092	−3.2	13	405	+6.6	7,290	+18.2
Montana	13	307	−1.3	5,655	−2.3	3	23	[11]	466	+.4
Nebraska	7	500	+6.6	7,400	+5.6	4	65	+1.6	1,325	+7.5
Nevada	4	58	−1.7	1,273	−6.7					
New Hampshire	17	349	−2.8	5,392	−4.0					
New Jersey	27	3,103	−2.2	64,168	−1.7	8	281	+2.6	7,850	+.9
New Mexico	6	255	−.8	3,872	−.3					
New York	69	6,970	+2.8	122,927	+3.0	19	595	+4.6	12,873	+7.5
North Carolina	11	708	−.6	7,442	−3.0					
North Dakota	9	221	−4.3	3,883	−4.6					
Ohio	88	4,658	−1.4	71,331	−2.6	48	1,653	+.8	29,121	+8.9
Oklahoma	10	667	+.8	8,642	+4.2	4	169	−1.7	2,270	−8.2
Oregon	4	323	+.9	5,218	+4.0	3	42	+5.0	912	+1.4
Pennsylvania	47	3,356	+.8	50,713	−.6	23	1,170	+.5	21,168	+9.1
Rhode Island	19	1,104	+.8	18,872	−2.1	5	299	+6.4	5,812	+6.5
South Carolina	8	334	+1.2	3,200	−2.0	3	37	−5.1	507	−6.1
South Dakota	7	144	−2.7	2,072	−4.1					
Tennessee	13	890	−3.2	7,965	−7.7	3	34	+6.3	479	−1.4
Texas	26	1,544	−.8	18,369	−3.8	16	380	+3.0	6,435	+5.6
Utah	6	505	+1.8	6,877	−[9]	8	138	+9.5	2,511	+10.9
Vermont	6	92	+3.4	1,146	+2.8	3	26	[11]	498	+1.6
Virginia	15	979	−.6	11,452	−2.2	24	325	−1.2	5,046	−.6
Washington	15	713	−12.7	13,486	−4.1	13	205	−1.9	3,795	+3.1
West Virginia	19	686	[11]	9,416	−[9]	11	230	−5.7	3,178	−3.8
Wisconsin	[16]*28*	*1,035*	*+2.8*	*14,618*	*+3.4*	4	206	+13.2	3,453	+14.8
Wyoming	4	86	+3.6	1,519	−.9					

[9] Less than one-tenth of 1 per cent. [11] No change. [16] Includes dyeing and cleaning.

Employment and Pay-Roll Totals in September, 1932, in Cities of Over 500,000 Population

IN THE following table are presented the fluctuations in employment and pay-roll totals in September, 1932, as compared with August, 1932, in 13 cities of the United States having a population of 500,000 or over. These changes are computed from reports received from identical establishments in each of the months considered.

In addition to including reports received from establishments in the several industrial groups regularly covered in the bureau's survey, excluding building construction, reports have also been secured from financial institutions, insurance offices, and other establishments in these cities for inclusion in these totals. Information concerning employment in building construction is not available for all cities at this time and therefore has not been included.

FLUCTUATIONS IN EMPLOYMENT AND PAY ROLLS IN SEPTEMBER, 1932, AS COMPARED WITH AUGUST, 1932

Cities	Number of establishments reporting in both months	Number on pay roll		Per cent of change	Amount of pay roll (1 week)		Per cent of change
		August, 1932	September, 1932		August, 1932	September, 1932	
New York City	2,035	283,625	298,528	+5.3	$7,807,852	$8,241,931	+5.6
Chicago, Ill	1,856	198,846	194,770	−2.0	4,627,969	4,536,322	−2.0
Philadelphia, Pa	660	114,409	117,141	+2.4	2,438,627	2,548,319	+4.5
Detroit, Mich	746	181,054	163,211	−9.9	3,830,071	2,599,504	−32.1
Los Angeles, Calif	695	52,566	53,453	+1.7	1,251,325	1,237,457	−1.1
Cleveland, Ohio	1,051	74,709	78,964	+5.7	1,498,028	1,599,526	+6.8
St. Louis, Mo	492	61,496	62,291	+1.3	1,300,712	1,305,725	+0.4
Baltimore, Md	551	44,519	45,599	+2.4	883,096	907,558	+2.8
Boston, Mass	2,939	79,950	82,576	+3.3	1,954,169	2,012,484	+3.0
Pittsburgh, Pa	331	45,281	46,319	+2.3	878,005	876,606	−0.2
San Francisco, Calif	1,089	43,804	44,347	+1.2	1,082,161	1,058,454	−2.2
Buffalo, N. Y	277	34,214	35,105	+2.6	768,603	780,814	+1.6
Milwaukee, Wis	471	33,813	34,951	+3.4	649,220	665,604	+2.5

Employment in Executive Civil Service of the United States, September, 1932

ON SEPTEMBER 30, 1932, there were 9,169 fewer employees on the Federal pay roll than at the end of September, 1931. Comparing September, 1932, with August, 1932, there was a loss of 76 employees.

These figures do not include the legislative, judicial, or Army and Navy services. The data as shown in the table below are compiled by the various Federal departments and offices and sent to the United States Civil Service Commission, where they are assembled. They are tabulated by the Bureau of Labor Statistics and published here by courtesy of the Civil Service Commission and in compliance with the direction of Congress. No information has as yet been collected relative to the amounts of pay rolls. Because of the importance of Washington as a Government center, the figures for the District of Columbia and for the Government service outside the District of Columbia are shown separately.

At the end of September, 1932, there were 575,290 employees in the executive civil service of the United States. Of this number, 535,118 were permanent and 40,172 were temporary employees. In the

interval between September 30, 1931, and September 30, 1932, there was a loss of 1 per cent in the number of permanent employees and a decrease of 8.4 per cent in the number of temporary employees. The decrease in all classes of employees was 1.6 per cent.

The number of employees in the District of Columbia showed a decrease of 4.9 per cent in September, 1932, as compared with September, 1931. The number of permanent employees decreased seven-tenths of 1 per cent and the number of temporary employees 54.7 per cent.

There was a decrease of three-tenths of 1 per cent in the number of Federal employees in the District of Columbia comparing September, 1932, with August, 1932.

During the month of September, 1932, there were 17,647 additions made to the Federal pay roll and 17,723 separations. This indicates a net turnover rate of 3.07 for the month. The turnover rate for the District of Columbia was 0.59.

On September 30, 1932, there were 67,070 employees on the Government pay rolls of the District of Columbia. Of this number 64,616 were permanent and 2,454 temporary workers.

EMPLOYEES IN THE EXECUTIVE CIVIL SERVICE OF THE UNITED STATES, SEPTEMBER, 1931, AND AUGUST AND SEPTEMBER, 1932 [1]

Item	District of Columbia			Outside the District			Entire service		
	Permanent	Temporary [2]	Total	Permanent	Temporary [2]	Total	Permanent	Temporary [2]	Total
Number of employees:									
September, 1931	65,090	5,422	70,512	475,490	38,457	513,947	540,580	43,879	584,459
August, 1932	64,795	2,464	67,259	471,185	36,922	508,107	535,980	39,386	575,366
September, 1932	64,616	2,454	67,070	470,502	37,718	508,220	535,118	40,172	575,290
Gain or loss:									
September, 1931–September, 1932	−474	−2,968	−3,442	−4,988	−739	−5,727	−5,462	−3,707	−9,169
August, 1932–September, 1932	−179	−10	−189	−683	+796	+113	−862	+786	−76
Per cent of change:									
September, 1931–September, 1932	−0.7	−54.7	−4.9	−1.0	−1.9	−1.1	−1.0	−8.4	−1.6
August, 1932–September, 1932	−0.3	−0.4	−0.3	−0.1	+2.2	+(3)	−0.2	+2.0	−(3)
Labor turnover, September, 1932:									
Additions	235	160	395	2,084	15,168	17,252	2,319	15,328	17,647
Separations	414	170	584	2,767	14,372	17,139	3,181	14,542	17,723
Turnover rate	0.36	6.51	0.59	0.44	38.51	3.37	0.43	36.56	3.07

[1] Certain revisions have been made from time to time by the Civil Service Commission in dropping certain classes of employees previously carried in the tabulations. Thus, in the District of Columbia, 68 mail contractors and special-delivery messengers were eliminated from the enumeration in May, 1932, and in the service outside the District of Columbia 35,800 star-route and other contractors, clerks in charge of mail contract stations, clerks in third-class post offices, and special-delivery messengers were eliminated in April, 1932, and 835 collaborators of the Department of Agriculture in June, 1932. In the table, in order to make the figures comparable for all the months shown, it was assumed that the number of these employees was the same in September, 1931, as in the month they were dropped from the tabulation (actual figures not being available from the Civil Service Commission), and the data for this month have been revised accordingly in this table.

[2] Not including field service of the Post Office Department.

[3] Less than one-tenth of 1 per cent.

Employment in Building Construction in September, 1932

EMPLOYMENT in the building construction industry decreased 2.2 per cent in September as compared with August and earnings decreased 2.9 per cent. These figures are based on pay-roll reports received from 10,408 firms engaged on building operations in 34 States and the District of Columbia.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN THE **BUILDING CONSTRUCTION** INDUSTRY IN IDENTICAL FIRMS, AUGUST AND SEPTEMBER, 1932

Locality	Number of firms reporting	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		Aug. 15	Sept. 15		Aug. 15	Sept. 15	
Alabama, Birmingham	72	469	462	−1.5	$6,659	$5,989	−10.1
California:							
Los Angeles [1]	27	1,764	1,304	−26.1	36,601	24,774	−32.3
San Francisco-Oakland [1]	30	781	783	+0.3	17,303	16,249	−6.1
Other reporting localities [1]	20	492	403	−18.1	11,635	8,449	−27.4
Colorado, Denver	190	652	626	−4.0	13,454	13,760	+2.3
Connecticut:							
Bridgeport	127	504	523	+3.8	12,783	12,065	−5.6
Hartford	224	1,180	938	−16.3	32,558	26,342	−19.1
New Haven	186	1,411	1,373	−2.7	40,391	37,604	−6.9
Delaware, Wilmington	119	1,361	1,230	−9.6	29,819	26,001	−12.8
District of Columbia	547	6,233	6,652	+6.7	169,560	187,410	+10.5
Florida:							
Jacksonville	49	310	272	−12.3	5,081	3,693	−27.3
Miami	82	593	690	+16.4	10,751	13,183	+22.6
Georgia, Atlanta	119	1,382	1,310	−5.2	18,786	18,697	−0.5
Illinois:							
Chicago [1]	136	1,070	1,314	+22.8	37,054	40,757	+10.0
Other reporting localities [1]	72	680	486	−28.5	19,889	12,546	−36.9
Indiana:							
Evansville	39	220	239	+8.6	4,461	4,648	+4.2
Fort Wayne	114	566	543	−4.1	11,938	11,027	−7.6
Indianapolis	165	1,193	1,049	−12.1	28,652	24,701	−13.8
South Bend	44	197	239	+21.3	3,952	4,585	+16.0
Iowa, Des Moines	106	534	814	+52.4	9,863	16,522	+67.5
Kansas, Wichita	64	443	505	+14.0	8,339	9,952	+19.3
Kentucky, Louisville	131	848	878	+3.5	16,233	17,138	+5.6
Louisiana, New Orleans	130	1,941	2,014	+3.8	29,499	33,105	+12.2
Maine, Portland	100	493	469	−4.9	11,020	11,255	+2.1
Maryland, Baltimore [1]	118	1,282	1,271	−0.9	22,820	24,470	+7.2
Massachusetts, all reporting localities [1]	738	6,011	5,909	−1.7	165,564	175,925	+6.3
Michigan:							
Detroit	425	2,853	2,986	+4.7	61,150	67,082	+9.7
Flint	37	144	138	−4.2	2,445	2,421	−1.0
Grand Rapids	109	604	679	+12.4	12,364	15,019	+21.5
Minnesota:							
Duluth	55	264	391	+48.2	4,836	6,317	+30.6
Minneapolis	228	1,671	1,750	+4.7	38,006	38,957	+2.5
St. Paul	144	1,167	921	−21.1	28,405	22,445	−21.0
Missouri:							
Kansas City [2]	260	1,799	1,499	−16.7	46,460	35,607	−23.4
St. Louis	441	2,539	2,506	−1.3	67,324	67,757	+0.6
Nebraska, Omaha	135	799	794	−0.6	17,342	17,435	+0.5
New York:							
New York City [1]	348	10,920	10,493	−3.9	447,296	413,158	−7.6
Other reporting localities [1]	174	4,096	3,913	−4.5	120,082	113,751	−5.3
North Carolina, Charlotte	36	238	230	−3.4	2,817	2,871	+1.9
Ohio:							
Akron	83	287	282	−1.7	5,508	5,182	−5.9
Cincinnati [3]	506	2,978	2,644	−11.2	79,970	70,285	−12.1
Cleveland	480	2,281	2,458	+7.8	62,234	64,096	+3.0
Dayton	122	358	411	+14.8	7,807	8,933	+14.4
Youngstown	64	284	259	−8.8	5,542	4,915	−11.3
Oklahoma:							
Oklahoma City	96	444	461	+3.8	7,281	7,993	+9.8
Tulsa	51	233	146	−37.3	3,586	2,244	−37.4
Oregon, Portland	190	1,290	1,077	−16.5	27,808	22,695	−18.4
Pennsylvania:							
Erie [1]	29	202	213	+5.4	4,868	4,803	−1.3
Philadelphia [1]	451	4,152	3,984	−4.0	96,887	90,660	−6.4
Pittsburgh [1]	228	1,130	1,239	+9.6	30,465	28,590	−6.2

[1] Data supplied by cooperating State bureaus.
[2] Includes both Kansas City, Mo., and Kansas City, Kans.
[3] Includes Covington and Newport, Ky.

COMPARISON OF EMPLOYMENT AND TOTAL PAY ROLL IN THE **BUILDING CONSTRUCTION** INDUSTRY IN IDENTICAL FIRMS, AUGUST AND SEPTEMBER, 1932—Continued

Locality	Number of firms reporting	Number on pay roll		Per cent of change	Amount of pay roll		Per cent of change
		Aug. 15	Sept. 15		Aug. 15	Sept. 15	
Pennsylvania—Continued.							
Reading-Lebanon [1]	48	388	381	−1.8	$7,204	$7,727	+7.3
Scranton [1]	28	151	153	+1.3	3,648	3,224	−11.6
Other reporting localities [1]	288	2,409	2,545	+5.6	52,303	56,503	+8.0
Rhode Island, Providence	225	1,505	1,570	+4.3	36,488	39,707	+8.8
Tennessee:							
Chattanooga	23	206	202	−1.9	2,420	3,196	+32.1
Knoxville	44	538	493	−8.4	7,572	6,438	−15.0
Memphis	91	476	477	+0.2	8,399	9,078	+8.1
Nashville	76	649	669	+3.1	11,545	11,055	−4.2
Texas:							
Dallas	150	895	875	−2.2	15,048	14,434	−4.1
El Paso	21	162	104	−35.8	3,153	1,241	−60.6
Houston	132	727	654	−10.0	12,885	12,321	−4.4
San Antonio	108	799	646	−19.1	12,970	10,056	−22.5
Utah, Salt Lake City	83	316	401	+26.9	5,755	7,495	+30.2
Virginia:							
Norfolk-Portsmouth	89	513	488	−4.9	9,449	9,218	−2.4
Richmond	149	1,044	936	−10.3	21,570	18,745	−13.1
Washington:							
Seattle	176	976	905	−7.3	19,923	20,338	+2.1
Spokane	48	252	166	−34.1	4,798	3,363	−29.9
Tacoma	79	143	148	+3.5	2,328	2,628	+12.9
West Virginia, Wheeling	48	166	170	+2.4	3,416	3,692	+8.1
Wisconsin, all reporting localities [1]	61	1,635	1,589	−2.8	34,298	31,694	−7.6
Total, all localities	10,408	87,293	85,392	−2.2	2,230,320	2,166,216	−2.9

[1] Data supplied by cooperating State bureaus.

Employment on Class I Steam Railroads in the United States

DATA are not yet available concerning railroad employment for September, 1932. Reports of the Interstate Commerce Commission for Class I railroads show that the number of employees (exclusive of executives and officials) decreased from 1,008,608 on July 15, 1932, to 983,112 on August 15, 1932, or 2.5 per cent; the amount of pay roll increased from $114,801,532 in July to $114,850,526 in August, or less than one-tenth of 1 per cent.

The monthly trend of employment from January, 1923, to August, 1932, on Class I railroads—that is, all roads having operating revenues of $1,000,000 or over—is shown by the index numbers published in the following table. These index numbers are constructed from monthly reports of the Interstate Commerce Commission, using the 12-month average for 1926 as 100.

TABLE 1.—INDEX OF EMPLOYMENT, ON **CLASS I STEAM RAILROADS** IN THE UNITED STATES, JANUARY, 1923, TO AUGUST, 1932

[12-month average, 1926=100]

Month	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932
January	98.3	96.9	95.6	95.8	95.5	89.3	88.2	86.3	73.7	61.2
February	98.6	97.0	95.4	96.0	95.3	89.0	88.9	85.4	72.7	60.3
March	100.5	97.4	95.2	96.7	95.8	89.9	90.1	85.5	72.9	60.5
April	102.0	98.9	96.6	98.9	97.4	91.7	92.2	87.0	73.5	60.0
May	105.0	99.2	97.8	100.2	99.4	94.5	94.9	88.6	73.9	59.7
June	107.1	98.0	98.6	101.6	100.9	95.9	96.1	86.5	72.8	57.8
July	108.2	98.1	99.4	102.9	101.0	95.6	96.6	84.7	72.4	56.4
August	109.4	99.0	99.7	102.7	99.5	95.7	97.4	83.7	71.2	55.0
September	107.8	99.7	99.9	102.8	99.1	95.3	96.8	82.2	69.3	.....
October	107.3	100.8	100.7	103.4	98.9	95.3	96.9	80.4	67.7	.....
November	105.2	99.0	99.1	101.2	95.7	92.9	93.0	77.0	64.5	.....
December	99.4	96.0	97.1	98.2	91.9	89.7	88.8	74.9	62.6	.....
Average	104.1	98.3	97.9	100.0	97.5	92.9	93.3	83.5	70.6	[1] 58.9

[1] Average for 8 months.

Table 2 shows the total number of employees on the 15th day each of August, 1931, and July and August, 1932, and the total pay roll for the entire months.

In these tabulations data for the occupational group reported as "executives, officials, and staff assistants" are omitted.

TABLE 2.—EMPLOYMENT AND EARNINGS OF RAILROAD EMPLOYEES, AUGUST, 1931, AND JULY AND AUGUST, 1932

[From monthly reports of Interstate Commerce Commission. As data for only the more important occupations are shown separately, the group totals are not the sum of the items under the respective groups]

Occupations	Number of employees at middle of month			Total earnings		
	Aug. 15, 1931	July 15, 1932	Aug. 15, 1932	August, 1931	July, 1932	August, 1932
Professional, clerical, and general	220,245	179,628	176,046	$32,355,982	$23,528,973	$23,317,782
Clerks	119,588	94,929	92,820	16,557,387	11,710,240	11,680,311
Stenographers and typists	20,576	16,897	16,639	2,686,308	1,978,787	1,966,178
Maintenance of way and structures	296,024	223,977	217,255	26,620,773	16,273,505	16,225,154
Laborers, extra gang and work train	33,809	18,887	16,918	2,299,296	972,448	907,079
Laborers, track and roadway section	157,933	124,353	120,319	10,554,588	6,210,862	6,219,907
Maintenance of equipment and stores	337,519	266,898	257,307	40,839,471	26,137,432	26,138,075
Carmen	69,839	54,269	52,430	9,506,407	5,982,324	6,024,876
Machinists	45,025	36,987	35,914	6,219,613	4,107,611	4,166,050
Skilled trades helpers	73,790	57,593	55,227	7,421,339	4,532,813	4,557,755
Laborers (shops, engine houses, power plants, and stores)	27,698	21,944	21,361	2,541,951	1,652,048	1,630,649
Common laborers (shops, engine houses, power plants, and stores)	36,395	28,109	27,037	2,561,413	1,543,246	1,581,337
Transportation, other than train, engine and yard	158,639	131,436	130,000	20,073,674	14,661,195	14,686,035
Station agents	27,599	25,762	25,573	4,367,236	3,583,088	3,644,620
Telegraphers, telephoners, and towermen	19,417	16,904	16,572	3,039,232	2,329,644	2,288,107
Truckers (stations, warehouses, and platforms)	22,590	16,193	16,443	2,076,388	1,216,705	1,278,670
Crossing and bridge flagmen and gatemen	18,907	18,176	18,067	1,459,879	1,236,904	1,230,702
Transportation (yardmasters, switch tenders, and hostlers)	17,548	13,518	13,226	3,376,658	2,261,163	2,206,697
Transportation, train and engine	242,764	193,151	189,278	47,590,997	31,939,264	32,276,783
Road conductors	27,765	22,646	22,071	6,617,017	4,677,796	4,688,782
Road brakemen and flagmen	53,596	43,032	42,067	8,986,809	6,059,594	6,115,304
Yard brakemen and yard helpers	40,943	32,098	31,432	6,712,018	4,141,755	4,225,904
Road engineers and motormen	32,805	26,484	25,981	8,741,962	6,089,258	6,136,691
Road firemen and helpers	33,664	27,092	26,810	6,324,677	4,355,774	4,385,760
All employees	1,272,739	1,008,608	983,112	170,857,555	114,801,532	114,850,526

RETAIL PRICES

Retail Prices of Food in September, 1932

THE following tables are compiled from simple averages of the actual selling prices received monthly by the Bureau of Labor Statistics of the United States Department of Labor from retail dealers.

Table 1 shows for 51 cities of the United States retail prices of food on September 15, 1931, and August 15 and September 15, 1932.

TABLE 1.—AVERAGE RETAIL PRICES OF FOOD IN THE UNITED STATES ON SEPTEMBER 15, 1931, AND AUGUST 15 AND SEPTEMBER 15, 1932

Articles	Unit	Sept. 15, 1931	Aug. 15, 1932	Sept. 15, 1932	Article	Unit	Sept. 15, 1931	Aug. 15, 1932	Sept. 15, 1932
		Cents	*Cents*	*Cents*			*Cents*	*Cents*	*Cents*
Sirloin steak	Pound	39.4	34.9	34.4	Flour	Pound	3.3	3.1	3.1
Round steak	do	34.4	30.8	30.2	Corn meal	do	4.5	3.8	3.8
Rib roast	do	28.3	24.6	24.3	Rolled oats	do	7.9	7.5	7.4
Chuck roast	do	20.9	18.0	17.8	Corn flakes	8-oz. pkg.	8.9	8.4	8.4
Plate beef	do	13.5	11.2	11.2	Wheat cereal	28-oz. pkg.	23.4	22.5	22.5
Pork chops	do	32.2	23.3	23.8	Macaroni	Pound	16.4	15.2	15.1
Bacon, sliced	do	36.2	23.9	23.5	Rice	do	8.0	6.5	6.5
Ham, sliced	do	45.6	35.7	35.2	Beans, navy	do	7.6	4.9	5.0
Lamb, leg of	do	28.8	24.0	23.4	Potatoes	do	2.0	1.7	1.5
Hens	do	30.9	23.1	23.5	Onions	do	4.3	3.6	3.0
Salmon, red, canned.	do	31.3	21.8	20.6	Cabbage	do	3.6	3.0	2.6
					Pork and beans	16-oz. can	8.3	7.0	7.0
Milk, fresh	Quart	12.1	10.5	10.6	Corn, canned	No. 2 can	13.0	10.5	10.4
Milk, evaporated	14½-oz. can.	7.9	6.3	6.1	Peas, canned	do	13.8	12.7	12.7
					Tomatoes, canned	do	9.9	9.4	9.1
Butter	Pound	36.8	26.8	26.9	Sugar	Pound	5.7	5.1	5.1
Margarine	do	18.3	14.6	14.5	Tea	do	75.8	70.1	69.9
Cheese	do	27.0	22.6	22.7	Coffee	do	32.4	29.6	30.1
Lard	do	12.6	8.9	9.1	Prunes	do	11.6	9.3	9.1
Vegetable lard substitute.	do	23.0	19.1	19.0	Raisins	do	11.3	11.6	11.4
					Bananas	Dozen	23.9	22.7	21.3
Eggs, strictly fresh	Dozen	33.8	26.8	29.5	Oranges	Pound	36.5	30.7	30.4
Bread	Pound	7.3	6.8	6.7					

Table 2 shows the trend in the retail cost of three important groups of food commodities, viz, cereals, meats, and dairy products, by years for 1913, 1920, 1928, 1929, 1930, 1931, and by months for 1931 and 1932. The articles included in these groups will be found in the May issue of this publication.

TABLE 2.—INDEX NUMBERS OF RETAIL COST OF CEREALS, MEATS, AND DAIRY PRODUCTS, FOR THE UNITED STATES, BY YEARS, 1913, 1920, 1928, 1929, 1930, AND BY MONTHS, 1931 AND 1932

[Average cost in 1913=100.0]

Year and month	Cereals	Meats	Dairy products	Year and month	Cereals	Meats	Dairy products
1913	100.0	100.0	100.0	1931—Continued.			
1920	232.1	185.7	185.1	October	129.8	142.7	117.0
1928	167.2	179.2	150.0	November	129.1	135.4	114.4
1929	164.1	188.4	148.6	December	127.8	129.3	111.4
1930	158.0	175.8	136.5	1932:			
1931: Average for year	135.9	147.0	114.6	January	126.4	123.4	106.5
January	147.1	159.5	123.6	February	125.0	117.3	102.9
February	144.6	153.4	120.2	March	124.3	118.9	101.9
March	142.4	152.5	120.5	April	122.9	118.6	97.4
April	138.9	151.4	116.5	May	122.6	115.3	94.3
May	137.7	149.3	110.3	June	122.5	113.4	92.6
June	136.3	145.7	108.3	July	121.2	122.6	91.4
July	134.3	147.8	109.6	August	120.4	120.1	93.1
August	132.0	149.1	111.9	September	119.2	119.2	93.5
September	130.2	147.7	114.3				

Index Numbers of Retail Prices of Food in the United States

IN TABLE 3 index numbers are given which show the changes in the retail prices of specified food articles, and for all articles combined by years, for 1913, 1920, 1928, 1929, 1930, 1931, and by months for 1931 and 1932. These index numbers are based on the average for the year 1913 as 100.0.

TABLE 3.—INDEX NUMBERS OF RETAIL PRICES OF PRINCIPAL ARTICLES OF FOOD BY YEARS, 1913, 1920, 1928, 1929, 1930, 1931, AND BY MONTHS FOR 1931 AND 1932

[Average for year 1913=100.0]

Year and month	Sirloin steak	Round steak	Rib roast	Chuck roast	Plate beef	Pork chops	Bacon	Ham	Lamb, leg of	Hens	Milk	Butter
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	172.1	177.1	167.7	163.8	151.2	201.4	193.7	206.3	207.9	209.9	187.6	183.0
1928	188.2	188.3	176.8	174.4	157.0	165.7	163.0	196.7	208.5	175.6	159.6	147.5
1929	196.9	199.1	185.4	186.9	172.7	175.7	161.1	204.1	212.2	186.4	160.7	143.9
1930	182.7	184.8	172.7	170.0	155.4	171.0	156.7	198.5	185.7	166.7	157.3	120.4
1931	155.1	154.3	146.0	134.4	118.2	138.6	134.8	170.6	156.1	145.5	138.2	92.4
January	167.3	168.2	159.1	152.5	138.0	141.9	148.9	188.1	166.1	153.5	149.4	98.4
February	161.4	161.0	154.0	145.6	131.4	131.4	145.2	183.3	164.6	148.8	146.1	94.8
March	158.7	157.8	153.0	141.9	128.1	140.0	143.0	178.4	164.0	150.2	144.9	97.4
April	157.5	156.5	150.0	139.4	124.8	141.4	141.1	175.5	165.6	153.1	141.6	91.9
May	155.5	154.7	147.0	135.6	119.8	143.3	139.3	172.9	165.1	148.8	138.2	81.5
June	152.4	151.1	142.9	130.6	112.4	140.0	136.7	170.6	161.9	146.0	134.8	80.7
July	154.3	154.3	142.9	130.0	110.7	151.4	137.0	171.4	158.7	144.6	136.0	82.8
August	155.5	155.2	143.9	130.0	109.9	158.6	135.6	171.4	156.6	145.1	136.0	89.8
September	155.1	154.3	142.9	130.6	111.6	153.3	134.1	169.5	152.4	145.1	136.0	96.1
October	152.0	150.7	141.4	129.4	111.6	139.5	127.0	164.3	145.5	140.4	134.8	104.2
November	146.9	144.8	137.9	126.3	109.9	119.0	118.9	155.4	138.1	137.1	134.8	97.4
December	142.9	140.4	134.8	122.5	108.3	103.8	112.2	147.6	131.7	134.3	130.3	95.3
1932:												
January	137.4	135.0	129.8	115.6	101.7	99.5	101.5	139.8	127.5	131.0	129.2	84.3
February	130.7	127.4	123.2	108.1	97.5	91.0	96.7	136.4	125.4	127.2	128.1	77.0
March	129.9	127.8	123.2	108.1	95.9	102.4	95.2	136.1	131.7	128.2	127.0	77.0
April	131.5	128.3	122.7	108.8	95.9	102.4	92.2	134.9	135.4	124.9	123.6	70.0
May	129.9	127.4	120.2	106.3	91.7	94.8	88.5	131.2	132.3	120.7	121.3	65.5
June	129.1	127.4	118.7	105.6	88.4	93.8	85.9	129.7	128.6	113.1	121.3	62.9
July	139.0	139.0	125.8	113.1	92.6	121.4	87.8	133.8	131.7	110.8	120.2	62.4
August	137.4	138.1	124.2	112.5	92.6	111.0	88.5	132.7	127.0	108.5	118.0	70.0
September	135.4	135.4	122.7	111.3	92.6	113.3	87.0	130.9	123.8	110.3	119.1	70.2

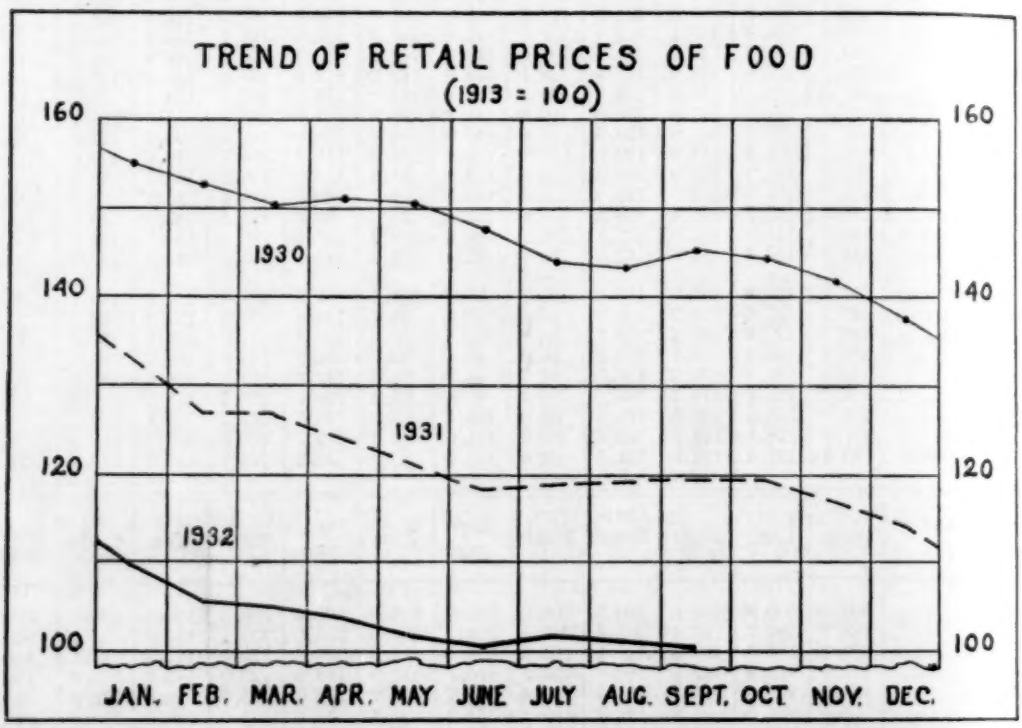
Year and month	Cheese	Lard	Eggs	Bread	Flour	Corn meal	Rice	Potatoes	Sugar	Tea	Coffee	All articles[1]
1913	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1920	188.2	186.7	197.4	205.4	245.5	216.7	200.0	370.6	352.7	134.7	157.7	203.4
1928	174.2	117.7	134.5	162.5	163.6	176.7	114.9	158.8	129.1	142.3	165.1	154.3
1929	171.9	115.8	142.0	160.7	154.5	176.7	111.5	188.2	120.0	142.6	164.8	156.7
1930	158.8	107.6	118.8	155.4	142.4	176.7	109.2	211.8	112.7	142.5	136.2	147.1
1931	127.1	84.2	91.9	135.7	109.1	153.3	94.3	135.3	103.6	138.6	113.4	121.3
January	145.2	99.4	104.6	146.4	121.2	170.0	102.3	170.6	107.3	141.0	126.8	132.8
February	141.2	91.8	78.8	142.9	121.2	166.7	102.3	158.8	107.3	140.6	125.2	127.0
March	137.1	89.9	82.6	141.1	118.2	166.7	98.9	158.8	105.5	139.7	121.8	126.4
April	132.6	89.9	79.4	137.5	115.2	163.3	96.6	164.7	103.6	138.2	116.1	124.0
May	124.0	85.4	71.9	137.5	112.1	153.3	95.4	164.7	101.8	136.9	112.4	121.0
June	119.9	82.3	74.8	135.7	112.1	150.0	94.3	141.2	101.8	136.8	111.1	118.3
July	118.6	82.3	82.9	133.9	109.1	150.0	93.1	135.3	101.8	137.3	109.1	119.0
August	119.9	81.0	92.5	132.1	103.0	150.0	93.1	129.4	103.6	138.6	108.7	119.7
September	122.2	79.8	98.0	130.4	100.0	150.0	92.0	117.6	103.6	139.3	108.7	119.4
October	122.6	78.5	109.9	130.4	100.0	146.7	89.7	105.9	101.8	139.0	107.7	119.1
November	121.3	77.2	115.1	130.4	100.0	140.0	86.2	100.0	101.8	138.1	106.7	116.7
December	118.6	70.9	111.6	128.6	100.0	136.7	85.1	105.9	100.0	138.1	105.7	114.3
1932:												
January	115.4	63.9	85.8	126.8	100.0	133.3	85.1	100.0	98.2	136.2	104.4	109.3
February	110.4	59.5	70.1	125.0	100.0	133.3	83.9	100.0	96.4	135.3	104.0	105.3
March	107.7	57.6	61.2	125.0	97.0	130.0	81.6	100.0	94.5	134.7	103.4	105.0
April	105.4	55.1	58.0	123.2	97.0	130.0	79.3	100.0	92.7	133.1	102.3	103.7
May	101.8	52.5	58.0	123.2	97.0	130.0	77.0	105.9	89.1	132.4	100.7	101.3
June	100.9	49.4	60.3	123.2	97.0	130.0	75.9	117.6	89.1	130.5	99.7	100.1
July	99.5	53.8	66.1	121.4	97.0	126.7	75.9	111.8	90.9	129.2	99.7	101.0
August	102.3	56.3	77.7	121.4	93.9	126.7	74.7	100.0	92.7	128.9	99.3	100.8
September	102.7	57.6	85.5	119.6	93.9	126.7	74.7	88.2	92.7	128.5	101.0	100.3

[1] 22 articles in 1913–1920; 42 articles in 1921–1932.

Comparison of Retail Food Costs in 51 Cities

TABLE 4 shows for 39 cities the percentage of increase or decrease in the retail cost of food in the United States in September, 1932, compared with the average cost in the year 1913, in September, 1931, and August, 1932. For 12 other cities comparisons are given for the 1-year and the 1-month periods; these cities have been scheduled by the bureau at different dates since 1913. The percentage changes are based on actual retail prices secured each month from retail dealers and on the average consumption of these articles in each city. The consumption figures which have been used since January, 1921, are given in the Labor Review for March, 1921 (p. 26). Those used for prior dates are given in the Labor Rievew for November, 1918 (pp. 94 and 95).

Effort has been made by the bureau each month to have all schedules for each city included in the average prices. For the month



of September schedules were received from 99.5 per cent of the firms in the 51 cities from which retail prices of food are collected.

Out of about 1,212 food reports 21 were not received—1 each in Bridgeport, Chicago, Dallas, Detroit, Mobile, Peoria, Salt Lake City, San Francisco, and Washington; 2 each in Denver, Los Angeles, and Portland (Oreg.); and 3 each in Baltimore and Seattle.

Out of about 350 bread reports 4 were not received—1 each in Little Rock, Philadelphia, Rochester, and Scranton.

A perfect record is shown for the following-named cities: Atlanta, Birmingham, Boston, Buffalo, Butte, Charleston (S. C.), Cincinnati, Cleveland, Columbus, Fall River, Houston, Indianapolis, Jacksonville, Kansas City, Louisville, Manchester, Memphis, Milwaukee, Minneapolis, Newark, New Haven, New Orleans, New York, Norfolk, Omaha, Pittsburgh, Portland (Me.), Providence, Richmond, St. Louis, St. Paul, Savannah, and Springfield (Ill.).

TABLE 4.—PERCENTAGE CHANGE IN THE RETAIL COST OF FOOD IN SEPTEMBER, 1932, COMPARED WITH THE COST IN AUGUST, 1932, SEPTEMBER, 1931, AND WITH THE AVERAGE COST IN THE YEAR 1913, BY CITIES

City	Percentage increase September, 1932, compared with 1913	Percentage decrease September, 1932, compared with—		City	Percentage increase September, 1932, compared with 1913	Percentage decrease September, 1932, compared with—	
		September, 1931	August, 1932			September, 1931	August, 1932
United States	0.3	16.0	0.5	Minneapolis	[1] 1.9	18.4	0.2
				Mobile		19.0	0.3
Atlanta	[1] 1.4	16.2	0.7	Newark	5.1	14.2	[2] 0.8
Baltimore	5.7	15.2	[2] 0.8	New Haven	6.9	15.3	0.4
Birmingham	[1] 1.7	15.1	2.4	New Orleans	0.9	12.7	[2] 1.2
Boston	2.2	17.4	0.6				
Bridgeport		14.5	0.3	New York	9.2	13.9	0.0
				Norfolk		12.1	[2] 0.6
Buffalo	4.3	15.1	1.9	Omaha	[1] 6.5	17.0	[2] 1.9
Butte		18.6	0.4	Peoria		14.8	1.0
Charleston, S. C	4.0	16.1	0.0	Philadelphia	4.5	17.6	[2] 0.3
Chicago	9.9	17.9	0.5				
Cincinnati	[1] 2.3	22.5	0.9	Pittsburgh	[1] 1.4	17.6	[2] 0.7
				Portland, Me		15.7	1.0
Cleveland	[1] 4.5	16.5	1.6	Portland, Oreg	[1] 5.0	12.0	[2] 0.3
Columbus		18.2	0.2	Providence	2.2	17.9	0.8
Dallas	[1] 5.6	15.4	[2] 0.4	Richmond	3.0	15.2	1.0
Denver	[1] 5.0	13.3	0.3				
Detroit	[1] 5.9	22.7	1.8	Rochester		14.5	3.0
				St. Louis	0.5	17.0	0.0
Fall River	[1] 0.3	14.4	0.8	St. Paul		17.6	0.7
Houston		16.2	[2] 1.3	Salt Lake City	[1] 14.6	18.8	[2] 1.4
Indianapolis	[1] 5.1	17.3	3.4	San Francisco	5.5	11.7	[2] 1.0
Jacksonville	[1] 6.2	15.9	0.5				
Kansas City	[1] 1.3	16.0	[2] 0.7	Savannah		13.9	0.1
				Scranton	5.8	16.8	0.2
Little Rock	[1] 8.5	17.1	[2] 0.3	Seattle	[1] 1.3	14.3	0.9
Los Angeles	[1] 7.7	16.2	[2] 8.1	Springfield, Ill		15.5	0.6
Louisville	[1] 7.4	16.9	0.6	Washington	8.2	16.6	0.5
Manchester	2.6	15.9	0.9				
Memphis	[1] 6.6	15.2	0.0	Hawaii:			
Milwaukee	2.2	17.1	0.7	Honolulu		15.5	1.3
				Other localities		14.7	0.5

[1] Decrease. [2] Increase.

Retail Prices of Coal in September, 1932

RETAIL prices of coal are secured in each of the 51 cities in which retail food prices are obtained. The prices quoted are for coal delivered to consumers but do not include charges for storing the coal in cellar or bins where an extra handling is necessary.

Average prices for the United States for bituminous coal and for stove and chestnut sizes of Pennsylvania anthracite are computed from the quotations received from retail dealers in all cities where these coals are sold for household use.

Table 1 shows the average prices of coal per ton of 2,000 pounds and index numbers for the United States on September 15, 1932, in comparison with the average prices on September 15, 1931, and August 15, 1932, together with the percentage change in the year and in the month.

Table 2 shows average retail prices of coal on August 15 and September 15, 1932, by cities. In addition to the prices for Pennsylvania anthracite, prices are shown for Colorado, Arkansas, and New Mexico anthracite in those cities where these coals form any considerable portion of the sales for household use.

The prices shown for bituminous coal are averages of prices of the several kinds sold for household use.

TABLE 1.—AVERAGE RETAIL PRICE PER 2,000 POUNDS OF COAL FOR THE UNITED STATES, AND PER CENT OF CHANGE ON SEPTEMBER 15, 1932, COMPARED WITH SEPTEMBER 15, 1931, AND AUGUST 15, 1932

Article	Average retail price on—			Per cent of increase (+) or decrease (−) Sept. 15, 1932, compared with—	
	Sept. 15, 1931	Aug. 15, 1932	Sept. 15, 1932	Sept. 15, 1931	Aug. 15, 1932
Pennsylvania anthracite:					
Stove—					
Average price per 2,000 pounds	$14.97	$13.50	$13.74	−8.2	+1.8
Index (1913=100.0)	193.8	174.8	177.9		
Chestnut—					
Average price per 2,000 pounds	$14.93	$13.28	$13.52	−9.4	+1.8
Index (1913=100.0)	188.7	167.9	170.8		
Bituminous:					
Average price per 2,000 pounds	$8.17	$7.52	$7.54	−7.7	+0.3
Index (1913=100.0)	150.3	138.4	138.7		

TABLE 2.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON AUGUST 15 AND SEPTEMBER 15, 1932

City, and kind of coal	Aug. 15, 1932	Sept. 15, 1932
Atlanta, Ga.:		
Bituminous, prepared sizes	$5.82	$5.74
Baltimore, Md.:		
Pennsylvania anthracite—		
Stove	12.50	13.00
Chestnut	12.00	12.50
Bituminous, run of mine—		
High volatile	7.07	6.93
Birmingham, Ala.:		
Bituminous, prepared sizes	4.98	4.98
Boston, Mass.:		
Pennsylvania anthracite—		
Stove	13.25	13.75
Chestnut	13.00	13.45
Bridgeport, Conn.:		
Pennsylvania anthracite—		
Stove	13.00	13.00
Chestnut	13.00	13.00
Buffalo, N. Y.:		
Pennsylvania anthracite—		
Stove	12.15	12.25
Chestnut	11.90	12.00
Butte, Mont.:		
Bituminous, prepared sizes	9.85	9.88
Charleston, S. C.:		
Bituminous, prepared sizes	9.50	9.50
Chicago, Ill.:		
Pennsylvania anthracite—		
Stove	15.44	15.64
Chestnut	15.19	15.39
Bituminous, prepared sizes—		
High volatile	7.44	7.32
Low volatile	9.42	9.69
Run of mine, low volatile	6.92	6.92
Cincinnati, Ohio:		
Bituminous, prepared sizes—		
High volatile	5.00	5.00
Low volatile	6.75	7.00
Cleveland, Ohio:		
Pennsylvania anthracite—		
Stove	13.56	13.50
Chestnut	13.31	13.25
Bituminous, prepared sizes—		
High volatile	6.33	5.97
Low volatile	8.00	8.18
Columbus, Ohio:		
Bituminous, prepared sizes—		
High volatile	5.14	5.04
Low volatile	6.25	6.42
Dallas, Tex.:		
Arkansas anthracite, egg	13.50	13.50
Bituminous, prepared sizes	9.75	10.00
Denver, Colo.:		
Colorado anthracite—		
Furnace, 1 and 2, mixed	$14.50	$14.69
Stove, 3 and 5, mixed	14.50	14.69
Bituminous, prepared sizes	7.89	7.59
Detroit, Mich.:		
Pennsylvania anthracite—		
Stove	13.00	13.00
Chestnut	12.79	12.88
Bituminous, prepared sizes—		
High volatile	6.04	5.93
Low volatile	6.86	6.83
Run of mine, low volatile	6.25	6.25
Fall River, Mass.:		
Pennsylvania anthracite—		
Stove	14.00	14.50
Chestnut	13.75	14.25
Houston, Tex.:		
Bituminous, prepared sizes	9.40	9.70
Indianapolis, Ind.:		
Bituminous, prepared sizes—		
High volatile	4.80	4.90
Low volatile	7.17	7.46
Run of mine, low volatile	5.35	6.05
Jacksonville, Fla.:		
Bituminous, prepared sizes	9.00	9.00
Kansas City, Mo.:		
Arkansas anthracite—		
Furnace	10.63	10.88
Stove No. 4	12.17	12.08
Bituminous, prepared sizes	5.78	5.80
Little Rock, Ark.:		
Arkansas anthracite—egg	11.50	11.25
Bituminous, prepared sizes	8.00	8.17
Los Angeles, Calif.:		
Bituminous, prepared sizes	15.25	15.75
Louisville, Ky.:		
Bituminous, prepared sizes—		
High volatile	4.69	4.69
Low volatile	6.69	7.25
Manchester, N. H.:		
Pennsylvania anthracite—		
Stove	14.50	14.67
Chestnut	14.50	14.67
Memphis, Tenn.:		
Bituminous, prepared sizes	6.54	5.67
Milwaukee, Wis.:		
Pennsylvania anthracite—		
Stove	14.65	14.85
Chestnut	14.40	14.60
Bituminous, prepared sizes—		
High volatile	6.99	6.99
Low volatile	8.78	9.15

TABLE 2.—AVERAGE RETAIL PRICES OF COAL PER TON OF 2,000 POUNDS, FOR HOUSEHOLD USE, ON AUGUST 15 AND SEPTEMBER 15, 1932—Continued

City, and kind of coal	Aug. 15, 1932	Sept. 15, 1932
Minneapolis, Minn.:		
Pennsylvania anthracite—		
Stove	$16.95	$17.15
Chestnut	16.70	16.90
Bituminous, prepared sizes—		
High volatile	9.60	9.48
Low volatile	11.87	11.87
Mobile, Ala.:		
Bituminous, prepared sizes	7.17	7.23
Newark, N. J.:		
Pennsylvania anthracite—		
Stove	11.99	12.08
Chestnut	11.74	11.83
New Haven, Conn.:		
Pennsylvania anthracite—		
Stove	13.65	13.65
Chestnut	13.65	13.65
New Orleans, La.:		
Bituminous, prepared sizes	8.07	8.07
New York, N. Y.:		
Pennsylvania anthracite—		
Stove	12.25	12.50
Chestnut	12.00	12.25
Norfolk, Va.:		
Pennsylvania anthracite—		
Stove	12.50	13.00
Chestnut	12.50	13.00
Bituminous, prepared sizes—		
High volatile	6.50	6.50
Low volatile	7.50	8.00
Run of mine, low volatile	6.50	6.50
Omaha, Nebr.:		
Bituminous, prepared sizes	8.77	8.70
Peoria, Ill.:		
Bituminous, prepared sizes	5.96	5.89
Philadelphia, Pa.:		
Pennsylvania anthracite—		
Stove	11.17	11.50
Chestnut	10.92	11.25
Pittsburgh, Pa.:		
Pennsylvania anthracite, chestnut	12.75	12.75
Bituminous, prepared sizes	4.00	4.00
Portland, Me.:		
Pennsylvania anthracite—		
Stove	15.36	15.84
Chestnut	15.12	15.60
Portland, Oreg.:		
Bituminous, prepared sizes	12.09	11.96
Providence, R. I.:		
Pennsylvania anthracite—		
Stove	[1] 14.00	[1] 14.50
Chestnut	[1] 13.75	[1] 14.25
Richmond, Va.:		
Pennsylvania anthracite—		
Stove	$13.00	$13.00
Chestnut	13.00	13.00
Bituminous, prepared sizes—		
High volatile	6.67	6.67
Low volatile	7.65	7.65
Run of mine, low volatile	6.50	6.50
Rochester, N. Y.:		
Pennsylvania anthracite—		
Stove	12.75	13.13
Chestnut	12.50	12.88
St. Louis, Mo.:		
Pennsylvania anthracite—		
Stove	14.85	15.23
Chestnut	14.85	15.23
Bituminous, prepared sizes	4.80	5.45
St. Paul, Minn.:		
Pennsylvania anthracite—		
Stove	16.95	17.15
Chestnut	16.70	16.90
Bituminous, prepared sizes—		
High volatile	9.49	9.49
Low volatile	11.87	11.87
Salt Lake City, Utah:		
Bituminous, prepared sizes	7.39	7.39
San Francisco, Calif.:		
New Mexico anthracite, Cerillos egg	25.00	25.00
Colorado anthracite, egg	24.50	-------
Bituminous, prepared sizes	15.00	15.00
Savannah, Ga.:		
Bituminous, prepared sizes	[2] 8.53	[2] 8.37
Scranton, Pa.:		
Pennsylvania anthracite—		
Stove	8.83	9.03
Chestnut	8.55	8.75
Seattle, Wash.:		
Bituminous, prepared sizes	9.70	10.11
Springfield, Ill.:		
Bituminous, prepared sizes	4.34	4.34
Washington, D. C.:		
Pennsylvania anthracite—		
Stove	[3] 13.85	[3] 14.15
Chestnut	[3] 13.55	[3] 13.85
Bituminous, prepared sizes—		
High volatile	[3] 8.29	[3] 8.29
Low volatile	[3] 9.86	[3] 9.86
Run of mine, mixed	[3] 7.56	[3] 7.50

[1] The average price of coal delivered in bins is 50 cents higher than here shown. Practically all coal is delivered in bins.

[2] All coal sold in Savannah is weighed by the city. A charge of 10 cents per ton or half ton is made. This additional charge has been included in the above price.

[3] Per ton of 2,240 pounds.

Retail Prices of Food in the United States and in Certain Foreign Countries

THE index numbers of retail prices of food published by certain foreign countries have been brought together with those of the Bureau of Labor Statistics of the United States Department of Labor in the subjoined table, the base years in all cases being as given in the original reports. As stated in the table, the number of articles included in the index numbers for the different countries differs widely. These results, which are designed merely to show price trends and not actual differences in prices in the several countries should not, therefore, be considered as closely comparable with one another. In certain instances, also, the figures are not absolutely comparable from month to month over the entire period, owing to slight changes in the list of commodities and the localities included on successive dates. Indexes are shown for July of each year from 1926 to 1930, inclusive, and by months since January, 1931.

INDEX NUMBERS OF RETAIL FOOD PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES

Country	United States	Canada	Austria	Belgium	Estonia	Finland	France	Germany	Ireland
Number of localities	51	60	Vienna	59	Talin	21	Paris	72	105
Commodities included	42 foods	29 foods	Foods	Foods	Foods	36 foods	Foods	Foods	Foods
Base=100	1913	1913	July, 1914	1921	1913	January–June, 1914	January–June, 1914	October, 1913–July, 1914	July, 1914
1926									
July	157.0	151	.....	184.9	121	1,105	[1] 507	145.3	174
1927									
July	153.4	149	.....	209.6	117	1,102	[1] 559	156.8	166
1928									
July	152.8	147	.....	203.8	127	1,155	[1] 544	154.1	166
1929									
July	158.5	150	123	212.3	134	1,116	[1] 590	155.7	166
1930									
July	144.0	149	119	205.5	103	969	[1] 593	145.9	156
1931									
January	132.8	134	109	195.1	95	893	.....	133.5	.....
February	127.0	129	106	186.8	96	883	.....	131.0	151
March	126.4	124	105	183.1	96	879	641	129.6	.....
April	124.0	121	104	180.1	96	870	.....	129.2	.....
May	121.0	116	104	176.6	95	849	.....	129.9	139
June	118.3	111	108	176.5	93	842	642	130.9	.....
July	119.0	110	110	174.8	94	846	.....	130.4	.....
August	119.7	112	109	171.5	91	870	.....	126.1	143
September	119.4	109	109	172.9	87	844	607	124.9	.....
October	119.1	107	111	170.2	83	848	.....	123.4	.....
November	116.7	107	110	167.9	82	885	.....	121.8	155
December	114.3	107	110	160.7	80	919	555	119.9	.....
1932									
January	109.3	105	111	156.5	81	916	.....	116.1	.....
February	105.3	100	110	151.3	81	908	.....	113.9	151
March	105.0	99	109	148.2	83	911	561	114.4	.....
April	103.7	98	107	144.3	83	886	.....	113.4	.....
May	101.3	94	108	144.9	81	876	.....	112.7	144
June	100.1	93	113	143.8	80	871	567	113.4	.....
July	101.0	92	110	144.4	83	886	.....	113.8	.....
August	100.8	96	109	142.9	80	898	.....	111.8	134
September	100.3	95	110	.....	.....	.....	.....	.....	.....

[1] June.

INDEX NUMBERS OF RETAIL FOOD PRICES IN THE UNITED STATES AND IN FOREIGN COUNTRIES—Continued

Country	Italy	Netherlands	Norway	Sweden	Switzerland	United Kingdom	South Africa	India	New Zealand	Australia
Number of localities	Milan	Amsterdam	31	49	34	630	9	Bombay	25	30
Commodities included	Foods	Foods	Foods	Foods	Foods	21 foods	24 foods	17 foods	59 foods	46 foods and groceries
Base=100	January–June, 1914	1911–1913	July, 1914	July, 1914	June, 1914	July, 1914	1914 (1,000)	July, 1914	1926–1930 (1,000)	1923–1927 (1,000)
1926										
July	654.3	[1] 168.1	198	156	159	161	1,165	155	[2] 1,026	----
1927										
July	524.0	[1] 163.0	175	148	157	159	1,188	154	[2] 983	----
1928										
July	512.5	[1] 169.4	173	156	157	157	1,157	143	[2] 1,004	----
1929										
July	528.3	[1] 165.3	158	148	155	149	1,156	145	[2] 1,013	1,041
1930										
July	519.3	[1] 151.6	151	138	152	141	1,092	136	981	958
1931										
January	467.1	----	146	132	148	138	1,081	111	910	876
February	462.8	----	144	----	146	136	1,074	106	879	864
March	464.7	139.9	143	----	144	134	1,071	103	856	854
April	466.8	----	141	130	142	129	1,073	104	851	851
May	460.0	----	139	----	141	129	1,082	102	847	840
June	456.6	140.6	138	----	141	127	1,064	101	839	833
July	452.0	----	140	127	140	130	1,043	100	824	811
August	444.1	----	138	----	139	128	1,031	100	820	805
September	438.3	136.9	136	----	139	128	1,022	100	812	804
October	435.1	----	136	128	138	128	1,026	100	834	805
November	436.8	----	136	----	137	130	1,022	100	832	812
December	437.8	125.5	136	----	134	132	1,004	101	835	809
1932										
January	431.2	----	135	127	132	131	990	103	827	814
February	432.5	----	135	----	129	131	992	102	810	829
March	445.6	118.8	135	----	128	129	993	103	792	825
April	450.4	----	134	125	128	126	987	99	797	824
May	441.8	----	133	----	126	125	981	99	787	812
June	438.0	119.2	133	----	125	123	963	99	778	803
July	426.8	----	134	124	124	125	944	102	761	----
August	411.1	----	133	----	123	123	----	102	----	----
September	409.6	----	134	----	----	123	----	----	----	----

[1] June. [2] Year.

WHOLESALE PRICES

Index Numbers of Wholesale Prices, 1913 to September, 1932

THE following table presents the index numbers of wholesale prices by groups of commodities, by years, from 1913 to 1931, inclusive, and by months from January, 1931, to date:

INDEX NUMBERS OF WHOLESALE PRICES

[1926=100.0]

Year and month	Farm products	Foods	Hides and leather products	Textile products	Fuel and lighting	Metals and metal products	Building materials	Chemicals and drugs	House-furnishing goods	Miscellaneous	All commodities
1913	71.5	64.2	68.1	57.3	61.3	90.8	56.7	80.2	56.3	93.1	69.8
1914	71.2	64.7	70.9	54.6	56.6	80.2	52.7	81.4	56.8	89.9	68.1
1915	71.5	65.4	75.5	54.1	51.8	86.3	53.5	112.0	56.0	86.9	69.5
1916	84.4	75.7	93.4	70.4	74.3	116.5	67.6	160.7	61.4	100.6	85.5
1917	129.0	104.5	123.8	98.7	105.4	150.6	88.2	165.0	74.2	122.1	117.5
1918	148.0	119.1	125.7	137.2	109.2	136.5	98.6	182.3	93.3	134.4	131.3
1919	157.6	129.5	174.1	135.3	104.3	130.9	115.6	157.0	105.9	139.1	138.6
1920	150.7	137.4	171.3	164.8	163.7	149.4	150.1	164.7	141.8	167.5	154.4
1921	88.4	90.6	109.2	94.5	96.8	117.5	97.4	115.0	113.0	109.2	97.6
1922	93.8	87.6	104.6	100.2	107.3	102.9	97.3	100.3	103.5	92.8	96.7
1923	98.6	92.7	104.2	111.3	97.3	109.3	108.7	101.1	108.9	99.7	100.6
1924	100.0	91.0	101.5	106.7	92.0	106.3	102.3	98.9	104.9	93.6	98.1
1925	109.8	100.2	105.3	108.3	96.5	103.2	101.7	101.8	103.1	109.0	103.5
1926	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
1927	99.4	96.7	107.7	95.6	88.3	96.3	94.7	96.8	97.5	91.0	95.4
1928	105.9	101.0	121.4	95.5	84.3	97.0	94.1	95.6	95.1	85.4	96.7
1929	104.9	99.9	109.1	90.4	83.0	100.5	95.4	94.2	94.3	82.6	95.3
1930	88.3	90.5	100.0	80.3	78.5	92.1	89.9	89.1	92.7	77.7	86.4
1931	64.8	74.6	86.1	66.3	67.5	84.5	79.2	79.3	84.9	69.8	73.0
1931:											
January	73.1	80.7	88.7	71.3	73.3	86.9	83.8	84.5	88.3	72.2	78.2
February	70.1	78.0	86.9	70.9	72.5	86.5	82.5	83.3	88.1	71.5	76.8
March	70.6	77.6	87.6	70.0	68.3	86.4	82.5	82.9	88.0	72.0	76.0
April	70.1	76.3	87.5	68.2	65.4	85.7	81.5	81.3	87.9	71.5	74.8
May	67.1	73.8	87.6	67.4	65.3	85.0	80.0	80.5	86.8	70.5	73.2
June	65.4	73.3	88.0	66.6	62.9	84.4	79.3	79.4	86.4	69.7	72.1
July	64.9	74.0	89.4	66.5	62.9	84.3	78.1	78.9	85.7	69.7	72.0
August	63.5	74.6	88.7	65.5	66.5	83.9	77.6	76.9	84.9	68.3	72.1
September	60.5	73.7	85.0	64.5	67.4	83.9	77.0	76.3	82.7	68.2	71.2
October	58.8	73.3	82.5	63.0	67.8	82.8	76.1	75.6	81.0	66.6	70.3
November	58.7	71.0	81.6	62.2	69.4	82.6	76.2	76.1	80.9	68.7	70.2
December	55.7	69.1	79.8	60.8	68.3	82.2	75.7	76.1	78.5	66.8	68.6
1932:											
January	52.8	64.7	79.3	59.9	67.9	81.8	74.8	75.7	77.7	65.6	67.3
February	50.6	62.5	78.3	59.8	68.3	80.9	73.4	75.5	77.5	64.7	66.3
March	50.2	62.3	77.3	58.7	67.9	80.8	73.2	75.3	77.1	64.7	66.0
April	49.2	61.0	75.0	57.0	70.2	80.3	72.5	74.4	76.3	64.7	65.5
May	46.6	59.3	72.5	55.6	70.7	80.1	71.5	73.6	74.8	64.4	64.4
June	45.7	58.8	70.8	53.9	71.6	79.9	70.8	73.1	74.7	64.2	63.9
July	47.9	60.9	68.6	52.7	72.3	79.2	69.7	73.0	74.0	64.3	64.5
August	49.1	61.8	69.7	54.0	72.1	80.1	69.6	73.3	73.6	64.6	65.2
September	49.1	61.8	72.2	57.0	70.8	80.1	70.5	72.9	73.7	64.7	65.3

INDEX NUMBERS OF SPECIFIED GROUPS OF COMMODITIES, SEPTEMBER, 1931, AND AUGUST AND SEPTEMBER, 1932

[1926=100.0]

Group	September, 1931	August, 1932	September, 1932
Raw materials	62.7	55.7	56.2
Semimanufactured articles	66.7	57.9	60.7
Finished products	75.9	70.7	70.4
Nonagricultural commodities	73.4	68.5	68.7
All commodities other than farm products and foods	73.9	70.1	70.4

Weekly Index Numbers of Wholesale Prices

A SUMMARIZATION of the weekly index numbers for the 10 major groups of commodities and for all commodities combined as issued during the month of September will be found in the following statement:

INDEX NUMBERS OF WHOLESALE PRICES FOR THE WEEKS OF SEPTEMBER, 1932

[1926=100.0]

Group	Week ending—			
	Sept. 3	Sept. 10	Sept. 17	Sept. 24
All commodities	65.5	65.7	65.4	65.4
Farm products	50.4	50.4	49.2	49.3
Foods	61.6	62.3	62.1	62.1
Hides and leather products	70.6	71.4	72.4	73.2
Textile products	55.2	56.2	56.2	56.4
Fuel and lighting	72.2	71.9	71.8	71.7
Metals and metal products	80.2	80.4	79.6	80.1
Building materials	69.9	70.2	70.4	70.7
Chemicals and drugs	73.2	73.0	73.0	72.9
Housefurnishing goods	74.8	74.6	74.6	74.6
Miscellaneous	64.7	64.5	65.1	64.9

Wholesale Price Trends During September, 1932

THE index number of wholesale commodity prices as computed by the Bureau of Labor Statistics of the United States Department of Labor shows a slight increase from August, 1932, to September, 1932. This index number, which includes 784 commodities or price series weighted according to the importance of each article and based on the average prices for the year 1926 as 100.0, averaged 65.3 for September as compared with 65.2 for August, showing an advance of about two-tenths of 1 per cent between the two months. When compared with September, 1931, with an index number of 71.2, a decrease of 8¼ per cent has been recorded in the 12 months.

The farm products group showed no change between the two months. Increases were recorded in the average prices of calves, sheep, cotton, eggs, lemons, oranges, tobacco, and wool. Decreases were recorded in the average prices of most grains, cows, hogs, onions, and potatoes.

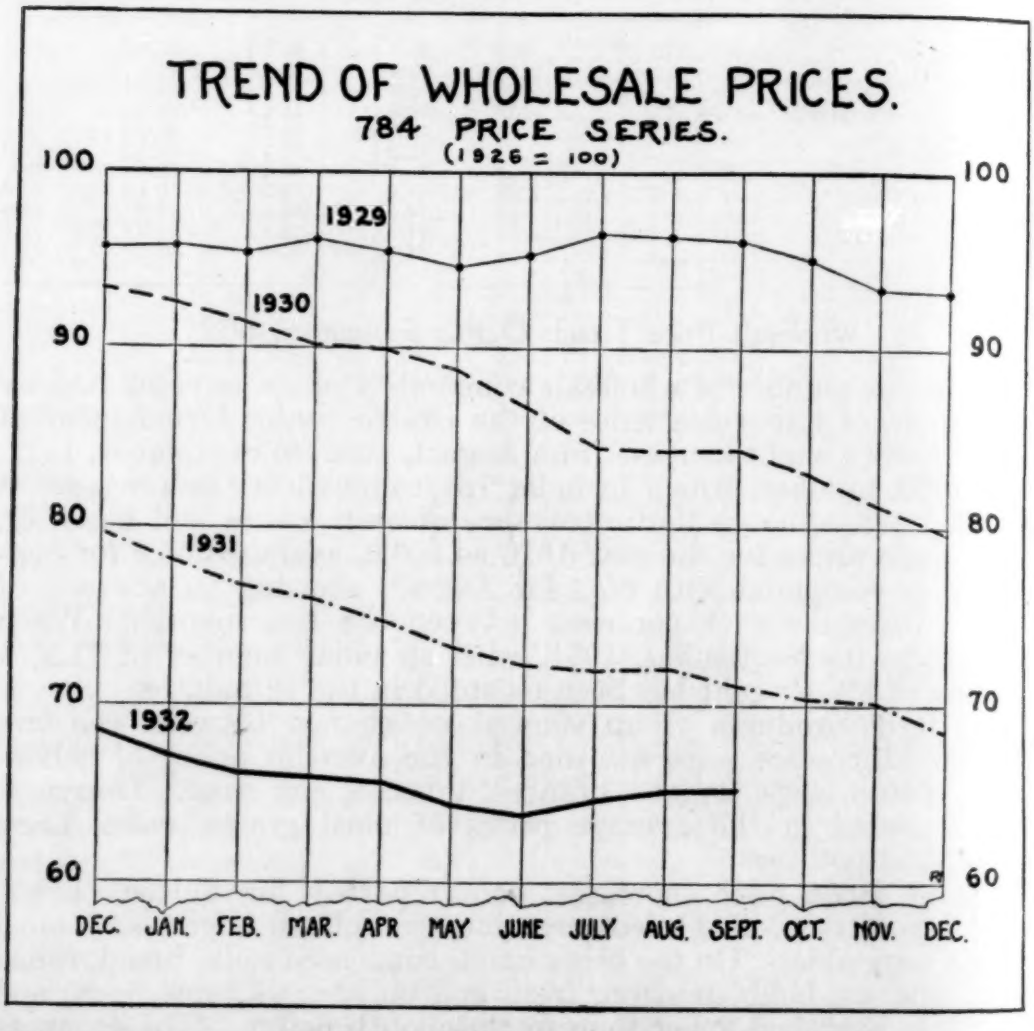
Among foods price increases were reported for butter, cheese, dressed poultry, coffee, oleomargarine, granulated sugar, and most canned vegetables. On the other hand, condensed milk, bread, rolled oats, bananas, lamb, mutton, fresh and cured pork, veal, lard, and raw sugar averaged lower than in the month before. The group as a whole showed no change in September when compared with August.

The hides and leather products group increased more than 3½ per cent during the month, due to sharp increases in hides and skins and leather. Decreases were shown for other leather products, with boots and shoes showing practically no change in average prices. Textile products as a whole increased 5½ per cent from August to September, all subgroups showing advancing prices for the month.

In the group of fuel and lighting materials decreases in the average prices of bituminous coal, electricity, gas, and petroleum products forced the group as a whole to decline nearly 2 per cent. Anthracite coal advanced during the month and coke remained at the August level.

Metals and metal products showed no change for September. Increases in iron and steel products and nonferrous metals were offset by decreases in agricultural implements, motor vehicles, and plumbing and heating fixtures. In the group of building materials brick and tile, lumber, paint and paint materials, and other building materials moved upward and cement and structural steel showed no change in average prices for the two months. The group as a whole advanced 1¼ per cent from August to September.

Chemicals advanced slightly between August and September. Drugs and pharmaceuticals, fertilizer materials, and mixed fertilizers showed recessions during September, causing the group to decline a



little more than one-half of 1 per cent from the month before. As a whole the housefurnishing goods group showed an upward tendency from the previous month.

The group of miscellaneous commodities increased approximately two-tenths of 1 per cent between August and September, advancing prices of automobile tires and tubes, and crude rubber more than counterbalanced decreasing prices for cattle feed, paper and pulp, and other miscellaneous commodities.

The September averages for raw materials, semimanufactured articles, nonagricultural commodities and all commodities other than farm products and foods were above those for August, with increases ranging from three-tenths of 1 per cent in the case of nonagricultural

commodities to nearly 5 per cent in the case of semimanufactured articles. Finished products declined about one-half of 1 per cent in the month period.

Between August and September price increases took place in 230 instances, decreases in 138 instances, while in 416 instances no change in price occurred.

INDEX NUMBERS OF WHOLESALE PRICES BY GROUPS AND SUBGROUPS OF COMMODITIES

[1926=100.0]

Commodity groups and subgroups	September, 1931	August, 1932	September, 1932	Purchasing power of the dollar, September, 1932
All commodities	71.2	65.2	65.3	$1.531
Farm products	60.5	49.1	49.1	2.037
Grains	44.2	38.2	37.4	2.674
Livestock and poultry	61.0	52.8	51.2	1.953
Other farm products	65.4	50.8	52.1	1.919
Foods	73.7	61.8	61.8	1.618
Butter, cheese, and milk	84.6	60.2	60.6	1.650
Cereal products	70.3	66.0	65.8	1.520
Fruits and vegetables	71.0	55.6	52.5	1.905
Meats	73.6	61.9	60.9	1.642
Other foods	68.5	62.1	64.6	1.548
Hides and leather products	85.0	69.7	72.2	1.385
Boots and shoes	93.5	84.4	84.4	1.185
Hides and skins	58.6	39.3	48.2	2.075
Leather	83.4	60.0	63.2	1.582
Other leather products	101.1	82.3	81.5	1.227
Textile products	64.5	54.0	57.0	1.754
Clothing	75.5	66.0	67.3	1.486
Cotton goods	61.5	52.6	57.9	1.727
Knit goods	59.2	48.5	50.4	1.984
Silk and rayon	43.5	29.5	32.6	3.067
Woolen and worsted goods	65.7	53.4	56.7	1.764
Other textile products	74.1	67.4	68.6	1.458
Fuel and lighting materials	67.4	72.1	70.8	1.412
Anthracite coal	94.3	86.0	87.7	1.140
Bituminous coal	83.9	81.3	81.1	1.233
Coke	81.5	76.7	76.7	1.304
Electricity	100.6	104.4	(1)	----------
Gas	103.4	107.0	(1)	----------
Petroleum products	38.9	48.9	46.7	2.141
Metals and metal products	83.9	80.1	80.1	1.248
Agricultural implements	94.1	84.9	84.9	1.178
Iron and steel	82.3	78.7	79.7	1.255
Motor vehicles	95.4	95.3	92.7	1.079
Nonferrous metals	59.0	48.5	51.6	1.938
Plumbing and heating	82.6	67.1	66.8	1.497
Building materials	77.0	69.6	70.5	1.418
Brick and tile	82.6	75.2	75.4	1.326
Cement	75.8	79.0	79.0	1.266
Lumber	66.9	55.5	56.3	1.776
Paint and paint materials	77.6	67.2	68.2	1.466
Plumbing and heating	82.6	67.1	66.8	1.497
Structural steel	81.7	81.7	81.7	1.224
Other building materials	82.6	78.3	79.9	1.252
Chemicals and drugs	76.3	73.3	72.9	1.372
Chemicals	79.8	79.7	79.8	1.253
Drugs and pharmaceuticals	61.7	57.0	56.6	1.767
Fertilizer materials	74.2	66.4	63.6	1.572
Mixed fertilizers	77.6	68.3	66.9	1.495
Housefurnishing goods	82.7	73.6	73.7	1.357
Furnishings	81.2	74.8	74.7	1.339
Furniture	84.6	72.6	72.7	1.376
Miscellaneous	68.2	64.6	64.7	1.546
Automobile tires and tubes	46.0	40.1	42.7	2.342
Cattle feed	44.4	47.4	45.9	2.179
Paper and pulp	80.7	76.3	75.5	1.325
Rubber, crude	10.6	7.9	8.2	12.195
Other miscellaneous	86.7	84.2	83.2	1.202
Raw materials	62.7	55.7	56.2	1.779
Semimanufactured articles	66.7	57.9	60.7	1.647
Finished products	75.9	70.7	70.4	1.420
Nonagricultural commodities	73.4	68.5	68.7	1.456
All commodities other than farm products and foods	73.9	70.1	70.4	1.420

[1] Data not yet available.

COST OF LIVING

Expenditures of American Consumers According to Income

THE following table, taken from a study of the American consumer market, the results of which were published in the Business Week for September 7, 1932 (pp. 16–20), shows the percentage distribution of expenditures by persons with different incomes.

PERCENTAGE DISTRIBUTION OF EXPENDITURES, BY INCOME GROUPS, AS COMPILED BY BUSINESS WEEK, 1929

Item	Annual income						
	Under $1,000	$1,000 and under $2,000	$2,000 and under $3,000	$3,000 and under $5,000	$5,000 and under $10,000	$10,000 and under $25,000	$25,000 and under $50,000
Food	33.5	32.2	20.7	14.8	10.4	7.6	4.1
Housing	18.5	15.8	14.3	17.4	24.4	21.7	19.6
Transportation	14.4	15.8	16.0	10.8	8.8	8.1	7.1
Savings	2.7	4.8	10.6	16.2	14.0	21.9	30.1
Personal	9.0	8.8	12.8	13.6	15.8	12.0	8.2
Clothing	11.6	10.8	10.1	8.3	6.4	3.5	1.8
Recreation	2.3	3.2	5.3	7.5	9.5	10.4	12.2
Health	2.2	2.5	3.0	5.0	3.2	5.0	3.1
Social activities	1.5	2.1	2.2	1.5	1.6	1.7	2.2
Taxes	.8	.9	1.7	1.8	2.5	3.5	7.8
Education	1.1	1.7	2.5	2.9	3.2	4.5	3.7
Civil	2.4	1.4	.8	.2	.2	.1	.1
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Item	Annual income					
	$50,000 and under $100,000	$100,000 and under $150,000	$150,000 and under $300,000	$300,000 and under $500,000	$500,000 and under $1,000,000	$1,000,000 and over
Food	2.2	1.8	1.7	0.6	0.4	0.2
Housing	25.5	26.3	18.5	5.4	3.9	1.8
Transportation	4.4	4.3	4.0	1.2	.6	.2
Savings	31.4	35.1	43.5	67.2	71.3	76.5
Personal	6.2	3.7	2.2	1.0	.5	.2
Clothing	1.1	.8	.9	.3	.1	.1
Recreation	8.6	6.9	7.0	3.2	1.7	.6
Health	2.5	1.5	1.1	.7	.4	.1
Social activities	2.5	2.6	2.5	2.8	3.6	2.7
Taxes	12.6	14.5	16.1	16.3	16.7	17.2
Education	3.0	2.4	2.4	1.2	.8	.4
Civil	(1)	.1	.1	.1	(1)	(1)
Total	100.0	100.0	100.0	100.0	100.0	100.0

[1] Less than one-tenth of 1 per cent.

Family Budget of Chicago Council of Social Agencies, 1932

THE fourth revised (March, 1932) edition of The Chicago Standard Budget for Dependent Families, prepared under the supervision of the division on family welfare of the Council of Social Agencies of Chicago, also includes an estimated minimum monthly budget for a self-supporting family consisting of father, mother, child of 13, child of 10, and child of 7.

This latter budget is reproduced below:

Food:	
Man	$8.70
Woman	6.95
Child	8.05
Child	6.75
Child	5.85
Total	36.30
Plus extra allowance	2.00
Total, food	38.30
Clothing and toilet articles:	
Man	3.75
Woman	3.00
Child	3.50
Child	3.00
Child	2.50
Total	15.75
Fuel: Average for the year, computed from schedule (two stoves, gas and electricity used)	10.50
Household supplies and furnishings	5.50
Car fare: For wage earner and two trips per week by housewife (70 fares at 3 for 20 cents)	4.67
Care of health: Doctor, dentist, drugs	7.00
Savings and insurance	10.00
Education: School expenses, newspapers, magazines, books, etc	3.00
Recreation: Picture shows, car fare to parks, etc	4.00
Organization and church dues	3.00
Incidental and emergency expenses: Moving, accidents, loss of wages by illness and change of position, etc	4.00
Total (without rent)	105.72

The expense of suitable housing must be added to this estimate. Five rooms at least will be needed for a family of this description, as three bedrooms will be necessary.

This estimate is based on the assumption that the father of the family is the only wage earner. If the mother also leaves her home for outside work the expenses will be increased, as she will have additional needs for clothing and car fare. Other items, especially food and clothing, will also be higher if the mother is not devoting her full time to the management and work of the household.

It is explained that the money allowance for food in the above budget will secure an adequate diet only if the purchaser has knowledge of food values in proportion to their cost. A small amount over the estimated minimum allowed will be required to offset the lack of such knowledge.

The clothing allowance is based on the assumption that the housewife is able to do mending and plain sewing.

The estimate for household supplies and furnishings "covers only the upkeep of a household equipment that is complete."

Living Standards in a Virginia Village

A STUDY of standards of living in the village of Crozet, Va., was made under the auspices of the School of Rural Social Economics of the University of Virginia in 1930 and the results were published in 1931 as one of the studies in the University of Virginia Record Extension Series, from which the following information is taken.

Crozet is an unincorporated village situated on the main line of the Chesapeake & Ohio Railway and has three hard-surfaced roads. Its trade and service facilities, as listed in the report, consist of a post office, 1 bank, 1 drug store, 1 general store, 3 grocery stores, 1 hardware store, 1 secondhand furniture store, 1 lumber company, 2 orchard supply firms, 1 cooper shop, 2 fruit-storage plants, 2 garages, and 6 filling stations, some of the latter being operated in connection with the general store, grocery stores, or garages. There is also a lawyer's office, 2 doctors' offices, a tea room, a combined restaurant and pool room, a barber shop, and a miniature golf course.

The social institutions include a 12-room school for white children and a 2-room school for colored children. There are four churches for the white population and one for the colored population. The social organizations consist of the Woman's Club, the Dramatic Club, the United Daughters of the Confederacy, the M. W. A. Lodge, and the Volunteer Fire Department. The Woman's Club has a clubhouse which serves as a meeting place for the club and other organizations and also houses the village library, which is in charge of the library committee of the club. The Dramatic Club has 20 members, the United Daughters of the Confederacy 50 members, the M. W. A. Lodge 100 members, and the Volunteer Fire Department 25 members. There are also ladies' aids, missionary societies, young people's church organizations, and several card clubs.

The village consists of about 140 families, approximately four-fifths of which are white and the rest colored. Schedules were obtained from 104 white families and 24 colored families. The white families ranged in size from 1 to 10 persons, with an average of 3.7 persons per family, the average per household being 4.2. The colored families averaged 4.5 persons per family and 4.6 persons per household. Children away at school were counted as members of the family when supported from the family purse. Relatives and other members of the household were taken into account in all costs when supported from a common income. When not supported from a common income, they were excluded from all costs except food and rental. Boarders were included under food and rental costs only. In a few instances hired help may have been included under food costs.

The data in Table 1, taken from the report, show the average cash expenditures of the white and colored families and the per cent of the total outlay spent for each specified item.

TABLE 1.—AVERAGE CASH EXPENDITURES OF WHITE AND COLORED FAMILIES IN CROZET, VA., AND PER CENT OF TOTAL OUTLAY SPENT FOR EACH SPECIFIED ITEM, 1929–30

Item	White								Colored	
	All (104) families		22 poor families		40 "intermediate" families		42 prosperous families		24 families	
	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total
Food	$511	25.9	$427	36.7	$521	30.7	$545	20.6	$339	37.9
Clothing	266	13.5	143	12.5	198	11.7	395	14.9	134	15.0
Rent	396	20.1	169	14.5	337	19.8	571	21.5	75	8.4
Furnishings	78	4.0	108	9.3	69	4.0	73	2.7	34	3.8
Operation goods [1]	337	17.1	179	15.4	296	17.5	460	17.3	120	13.4
Maintenance of health	82	4.2	39	3.4	118	7.0	69	2.6	43	4.8
Advancement goods [2]	171	8.7	31	2.7	71	4.2	340	12.8	85	9.5
Personal goods [3]	74	3.7	33	2.8	56	3.3	112	4.2	23	2.6
Insurance, life and health	52	2.7	19	1.6	30	1.8	90	3.4	32	3.6
Unclassified [4]	3	.1	13	1.1					9	1.0
Total	1,970		1,161		1,696		2,655		894	
Number in family	3.7		4.2		4.1		3.1		4.5	
Number in household	4.2		4.6		4.5		3.6		4.6	

[1] Includes fuel, automobile expenses, car fare, household supplies, hired help, laundry sent out, insurance on furnishings, ice, water, taxes, postage, express, telephone, etc.
[2] Formal education, reading matter, organization dues, church support, recreation, etc.
[3] Barber fees, toilet articles, gifts, tobacco, etc.
[4] Burials, cemetery lots, and unspecified items.

The food-cost figures include garden or farm products, priced at what they would have brought had they been sold. For the white village families, these represented approximately one-fourth (26.8 per cent) of the total average food cost ($511). In the case of the poor white families, 24 per cent (in cash value) of the food was obtained from the garden; of the intermediate families, 32 per cent; and of the prosperous families, 23 per cent. The cash value of these products per family was placed at $103, $166, and $126, respectively, in the three groups. Less than 20 per cent of the food used by the colored village families was derived from the garden.

Clothing costs include all articles actually purchased for all members of the family during the year of study. Certain new and used garments received as gifts were valued at what they were considered worth.

The data for the colored families, it is said, may not be complete in all respects, as for example, in regard to food, clothing, fuel, and possibly reading matter, given by white employers as part pay for services rendered.

In Table 2, compiled from the report, comparisons are given of the data on the average yearly expenditures of the 104 white families in Crozet, Va., obtained in the study under review, with information obtained in earlier studies for 137 farm families of Bedford and Culpeper Counties, Va.,[1] and for 140 families of the city of Lynchburg, Va.[1] Comparison is also made of the data for the 24 Negro village families covered by the present study with data for 154 Negro farm families issued by the United States Bureau of Agricultural Economics.[2]

[1] Virginia, University of. Institute for Research in the Social Sciences. Institute Monograph No. 6: Rural and urban living standards in Virginia, by Wilson Gee and William H. Stauffer. [Charlottesville] 1929.
[2] The cost of living among colored farm families of selected localities of Kentucky, Tennessee, and Texas. A preliminary report. Washington, 1925.

TABLE 2.—EXPENDITURES OF WHITE VILLAGE, FARM, AND CITY FAMILIES, AND OF COLORED VILLAGE AND FARM FAMILIES

Item	White						Colored			
	104 village families, 1929–30		137 farm families, 1927–28		140 city families, 1927–28		24 village families, 1929–30		154 farm families, 1919	
	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total	Cash expenditures	Per cent of total
Food	$511	25.9	$635	37.6	$566	21.5	$339	37.9	$327	53.5
Clothing	266	13.5	237	14.1	360	13.6	134	15.0	107	17.5
Rent	396	20.1	265	15.7	488	18.5	75	8.4	41	6.7
Furnishings	78	4.0	24	1.4	78	3.0	34	3.8	4	.7
Operation goods [1]	337	17.1	291	17.3	503	19.1	120	13.4	56	9.1
Maintenance of health	82	44.2	53	3.1	103	3.9	43	4.8	25	4.1
Advancement goods [1]	171	8.7	83	4.9	274	10.4	85	9.5	28	4.6
Personal goods [2]	74	3.7	67	4.0	103	3.9	23	2.6	9	1.5
Insurance, life and health	52	2.7	32	1.9	160	6.1	32	3.6	14	2.3
Unclassified [3]	3	.1					9	1.0		
Total	1,970		1,687		2,635		894		611	
Number in family	3.7		4.5		4.8		4.5		4.8	
Number in household	4.2		5.1		5.2		4.6		5.1	

[1] See Table 3.
[2] Barber fees, toilet articles, gifts, tobacco, etc.
[3] Burials, cemetery lots, and unspecified items.

The houses occupied by the white families classified as poor averaged 4.8 rooms in the village, 5.8 on the farm, and 3.9 in the city; those of the intermediate group averaged 5.9 rooms in the village, 7.4 on the farm, and 5.7 in the city; while the houses of the prosperous families averaged 6.2 rooms in the village, 10.6 on the farm, and 8.8 in the city.

None of the homes of the poor white village families were completely modern, although over one-half (55 per cent) had electric lights and 14 per cent had running-water systems, including stationary bathtubs, washbowls, and kitchen sinks; only one had an indoor water-flush toilet. None of the houses of the poor farm families had central heating plants, only one had a central lighting system, and but two had water piped in. Only one of the poor-family houses in the city had a central heating system, but 57 per cent had gas or electric lights, all had running-water systems, and one-sixth had bath facilities.

Of the intermediate white village homes, 5 per cent were modern, 70 per cent were partly modern, and 25 per cent had no modern improvements. In the intermediate farm group, modern heating devices were not common and only about one-fifth of the houses had running water, or electricity or gas for lighting. Nearly one-third of the intermediate group in the city had central heating systems, practically all had gas or electric lights, and nine out of ten had bath facilities.

One-third of the prosperous white village homes were completely modern, 64.3 per cent were partly modern, and 2.4 per cent had no modern improvements. In the prosperous farm group, over 40 per cent of the homes had central heating plants and 75 per cent had electric or gas lights and running-water systems. All of the prosperous city homes were completely modern.

The houses of the colored village families averaged 3 rooms each and of the colored farm families 3.2 rooms. The report does not give information as to modern improvements in the colored homes.

The amounts spent for the various items included under the heads "Operation goods and services" and "Advancement goods and services" are shown in Table 3.

TABLE 3.—EXPENDITURES OF WHITE AND COLORED VILLAGE FAMILIES FOR OPERATION GOODS AND SERVICES AND ADVANCEMENT GOODS AND SERVICES, 1929–30

Item	White village families				24 colored village families
	All (104) families	22 poor families	40 intermediate families	42 prosperous families	
Operation goods and services:					
Fuel	$79.00	$58.60	$65.80	$102.20	$54
Automobile [1]	139.90	82.10	142.70	167.60	38
Car fare	.20		.50		2
Household supplies	9.90	9.80	10.60	9.30	11
Hired help	28.90	.20	15.30	56.90	
Laundry sent out	28.90	5.70	19.50	50.00	
Insurance on furnishings	3.20	.70	1.50	6.20	
Ice	16.10	7.30	13.80	23.00	9
Water	12.70	9.50	12.80	14.20	1
Taxes	6.90	2.10	4.90	11.40	2
Postage, express, etc	4.60	1.60	3.20	7.50	[2] 3
Telephone	7.10	1.30	5.90	11.20	
All other					
Total	337.40	178.90	296.50	459.50	120
Advancement goods and services: [3]					
Formal education [4]	53.10	8.80	12.40	115.50	43
Reading matter	13.60	3.40	9.50	22.50	5
Organization dues	6.80	1.70	3.10	12.80	4
Church support	39.60	11.20	27.00	66.50	29
Red Cross, etc	1.40		.60	2.80	
Recreation	56.70	6.30	18.70	119.40	4
Total	171.20	31.40	71.30	339.50	85

[1] Including gasoline, oil, repairs, accessories, license, insurance, and depreciation.
[2] Postage.
[3] For all persons 10 years of age and over.
[4] Including board and lodging at high school or college, textbooks, supplies, and tuition.

The authors point out that the figures given in the report are merely indicative rather than absolute or final with regard to the prevailing standards of living on the farm, in the village, and in the city, and that "standards of living are never entirely comparable by the statistical method. They are least comparable when they pertain to environments which are as widely different as those of farm, village, and city."

Farm family findings can not be applied in wholesale fashion to urban conditions. The surroundings and the plan or scheme of farm life differ from those of the city. The surroundings and plan of village life fall somewhere between the farm and the city. The major satisfactions of farm life, and probably to a less extent village life, come from very different sources and are much less dependent on money income than are those of city life. The farmer has close at hand some of the things for which the villager or the urbanite is willing to pay well in time or money. On the other hand, the urban dweller is sometimes envied by the farmer or villager for his more ready access to some of the sources of the so-called advancement goods and services. In all comparisons one must keep in mind that farm, village, and city modes of living "in many ways, are fundamentally different and that psychological processes and effects are not possible of measurement in such manner as to permit of absolute (or even satisfactory) comparisons."

New Indexes of Cost of Living in France

UP TO 1931, regional and local commissions in France made cost-of-living surveys regularly in accordance with a decree of February 19, 1920, and the indexes published were consistently made on a 1914 base.[1] However, in 1931 the Central Commission for Study of Cost of Living, deciding that indexes based on prices in 1914 did not always reflect prices accurately because of the differences in the rate of increase in prices of various articles, recommended the establishment of a new index. In providing for the new index it was stipulated, however, that the index based on 1914 as 100 should be continued as long as seemed necessary in order to facilitate the regular execution of contracts ordinarily based on the cost-of-living returns.

In accordance with the recommendation of the central commission, regional and local commissions have been directed to base the new index on the year 1930. The weights given the major items in the budget are as follows:

	Per cent of total
Food	60
Heat and light	5
Rent	10
Clothing	15
Miscellaneous	10
Total	100

As with the earlier index numbers, the new series is based on a family of four. The new index will be calculated twice yearly, i. e., in May and November, and supplementary figures may be calculated in February and August if it is judged expedient by the commission.

The majority of the regional and local commissions have made calculations under the new rulings, and it is stated in the report here summarized that the resulting statistics show greater homogeneity than those formerly obtained.

While no index is given for France as a whole, a simple arithmetic average has been worked based on the indexes of a number of departments, excluding indexes for those departments that showed unexplained variations. This average is reproduced below for May, 1931, and May, 1932.

INDEX OF EXPENDITURES FOR A WORKING-CLASS FAMILY OF FOUR PERSONS

[Based on a uniform type of budget. 1930=100]

Item	May, 1931	May, 1932
Food	61.6	54.1
Heat and light	4.9	4.7
Rent	10.2	10.6
Clothing	14.2	12.2
Miscellaneous	9.9	9.9
Total	100.9	91.3

[1] Bulletin de la Statistique Générale de la France, Paris, July-September, 1932, pp. 562-564.

IMMIGRATION AND EMIGRATION

Statistics of Immigration for August, 1932

By J. J. KUNNA, CHIEF STATISTICIAN UNITED STATES BUREAU OF IMMIGRATION

THE statistics for August show 16,826 aliens admitted to the United States, the immigrants or newcomers for permanent residence in this country numbering 2,719 and the nonimmigrants or visitors 14,107. This is an increase of both classes compared with the previous month, when 2,079 immigrants and 10,534 nonimmigrants, a total of 12,613 aliens, were admitted. Alien departures from the country during August included 8,783 emigrants and 20,141 nonemigrants. A total of 57,887 American citizens left during the month for foreign lands and 54,070 returned.

Of the 2,719 immigrants admitted in August, 1,435, or 52.8 per cent, came from European countries. Italy, the principal source of present-day immigration from overseas, contributed 403 immigrants this month, about 70 per cent of whom came in under the immigration act of 1924 as wives and unmarried children of United States citizens. Germany was second with 207, followed by Great Britain and Poland with 114 each, France with 83, and Greece with 75. The other countries of Europe, with a total of 439, sent less than 60 each. The Western Hemisphere supplied 1,194 of the August immigrants, Canada and Mexico contributing the major portion or 82 per cent, 824 coming from the former and 156 from the latter. Compared with the corresponding month a year ago, European immigration dropped 34 per cent, Canadian immigration 26 per cent, while that from Mexico decreased only 10 per cent.

New York State continues to lead all others as the settling ground of immigration, about 1 out of every 3 immigrant aliens going to that State to make his future home. Of the 2,719 immigrants during August last, 931, or 34 per cent, went to New York, while 227 settled in Massachusetts, 213 in California, and the remainder scattered, with less than 200 going to any one of the other States.

INWARD AND OUTWARD PASSENGER MOVEMENT DURING JULY AND AUGUST, 1932

Period	Inward						Outward					
	Aliens admitted			United States citizens arrived	Total	Aliens debarred from entering [1]	Aliens departed			United States citizens departed	Total	Aliens deported after landing [2]
	Immigrant	Nonimmigrant	Total				Emigrant	Nonemigrant	Total			
July, 1932	2,079	10,534	12,613	28,006	40,619	561	11,328	24,089	35,417	59,298	94,715	2,100
August, 1932	2,719	14,107	16,826	54,070	70,896	605	8,783	20,141	28,924	57,887	86,811	1,946
Total	4,798	24,641	29,439	82,076	111,515	1,166	20,111	44,230	64,341	117,185	181,526	4,046

[1] These aliens are not included among arrivals, as they were not permitted to enter the United States.
[2] These aliens (exclusive of visitors across land borders) are included among aliens departed, they having entered the United States, legally or illegally, and later deported.

PUBLICATIONS RELATING TO LABOR

Official—United States

CALIFORNIA.—Unemployment Commission. *Report on the California State labor camps, by S. Rexford Black. San Francisco, 1932. 47 pp., illus.*

Reviewed in this issue.

GEORGIA.—Board for Vocational Education. *Bulletin No. 23: The work of the Georgia opportunity schools for her employed youth, by Lota Walker Orr. Atlanta [1932?]. 40 pp., illus.*

PHILIPPINE ISLANDS.—Governor General. *Annual report, 1931. Washington, 1932. 324 pp. (House Doc. No. 355, 72d U. S. Cong., 1st sess.)*

Data on unemployment from the report are given in this issue.

PUERTO RICO.—Departamento de Agricultura y Trabajo. Division del Trabajo. *Primer informe anual. San Juan, 1931. 20 pp.*

In this, the first annual report of the Division of Labor, wages and living conditions are discussed.

WILMINGTON (DELAWARE).—Mayor's Employment and Relief Committee. *Work and relief in Wilmington, Del., in 1931–32. Wilmington, 1932. 85 pp., illus.*

UNITED STATES.—Department of Agriculture. *Circular No. 240: What Ohio farmers think of farmer-owned business organizations in that State, by T. B. Manny. Washington, 1932. 23 pp.*

—— Federal Board for Vocational Education. *Bulletin No. 164: Report of a training course for foreman conference leaders. Washington, 1932. 81 pp.*

—— President's Conference on Home Building and Home Ownership. *Homemaking, home furnishing, and information services. Reports of the committee on homemaking—housing and family life, home furnishing and decoration, and home information service and centers. Washington, 1932. 238 pp., illus.*

—— Treasury Department. Public Health Service. *Public Health Bulletin No. 184 (revised): Health departments of States and Provinces of the United States and Canada. Washington, 1932. 785 pp., maps, diagrams.*

Official—Foreign Countries

AUSTRIA.—Gewerbe-Inspektorat. *Die Amtstätigkeit der Gewerbe-Inspektorate im Jahre 1931. Vienna, 1932. 106 pp., illus.*

Report on the activities of factory inspectors in Austria during the year 1931, including information on legislation, personnel, labor protection, economic conditions of wage earners, etc. Also gives a special report of the physicians on the staff of factory inspectors, and a report on safety devices for oil burners.

CANADA.—Bureau of Statistics. General Statistics Branch. *The Canada yearbook, 1932. Ottawa, 1932. 1100 pp.*

Includes statistics on wages, employment and unemployment, production, prices, cost of living, trade-union membership, fatal industrial accidents, workmen's compensation, strikes, lockouts, old-age pensions, the cooperative movement, and immigration. An article on labor legislation from this yearbook is summarized in this issue of the Review.

DENMARK.—Commissioner of Recognized Sickness Funds. *The national sickness, invalidity, and funeral insurance in Denmark.* [*Copenhagen*], *1932. 36 pp.* (*In English.*)

FEDERATED MALAY STATES.—Labor Department. *Annual report for the year 1931. Kuala Lumpur, 1932. 60 pp.*

Contains information on migration of laborers between Southern India and the Federated Malay States; wages; working conditions; and number of laborers of specified nationalities on estates, in mines, and in factories, employing 100 or more workers, in the Federated Malay States.

GERMANY.—Reichsarbeitsministerium. Reichsversicherungsamt. *Gesundheitsfürsorge in der Invalidenversicherung, 1931. Berlin, 1932. 88 pp., charts.* (*Beilage zu den Amtlichen Nachrichten für Reichsversicherung, Jahrgang 1932, Nr. 8.*)

Contains a review of public invalidity insurance in Germany during the year 1931.

GREAT BRITAIN.—Home Office. *Memorandum on the industrial diseases of silicosis and asbestosis. London, 1932. 18 pp.*

A review of the causes of silicosis and asbestosis, the industries in which there is exposure to silica or asbestos dust, and measures for prevention of these diseases.

—— Industrial Health Research Board. *Report No. 65: Two studies in the psychological effects of noise: 1. Psychological experiments on the effects of noise, by K. G. Pollock and F. C. Bartlett. II. The effects of noise on the performance of weavers, by H. C. Weston and S. Adams. London, 1932. 62 pp., diagrams.*

The authors concluded as a result of the experiments carried out in the first study that noise in general tends to produce "slight and readily recoverable diminution of efficiency." The second study showed that while only a small change in efficiency occurred when the weavers were protected from the noise of the looms, nevertheless noise should not be considered a negligible factor in determining industrial efficiency.

—— Mines Department. *Coal mines act, 1911: Regulations and orders relating to safety and health. 1932 edition. London, 1932. 184 pp.*

A compendium of all the orders relating to safety and health matters in mines, under the 1911 act, which were in force on December 31, 1931. Contains also lists of permitted explosives, approved types of safety lamps, breathing apparatus, smoke helmets and the like.

—— Oversea Settlement Committee. *Report for the period April 1, 1931, to March 31, 1932. London, 1932. 29 pp.* (*Cmd. 4143.*)

—— Registry of Friendly Societies. *Report for the year 1932. Part 5: Building societies; Section II, directory and summaries. London, 1932. 77 pp.*

JAVA.—Kantoor van Arbeid. *Publicatie No. 5: Vorstenlandsche tabaksenquête, door P. de Kat. Angelino. Weltevreden, 1929. 178 pp., map, illus.*

Report of a survey of labor conditions in the tobacco industry of the Javanese native States, conducted by the Labor Office at Batavia, Java. Some of the information obtained in the study, taken from a summary of the report published in the International Labor Review for May, 1931, is given in this issue.

LITHUANIA.—Finansų Ministerija. Centralinis Statistikos Biuras. *Lietuvos statistikos metraštis, 1931 m. Kaunas, 1932. 355 pp.*

Includes statistics on wages of agricultural workers, housing, cooperation, prices and cost of living, sick funds, retirement annuities, etc. Tabular matter is in French as well as Lithuanian.

NEW ZEALAND.—Census and Statistics Office. *Statistical report on prices, wages and hours of labor, unemployment, industrial accidents, banking, building societies, bankruptcy, incomes and income tax, for the year 1930. Wellington, 1932. xxx, 144 pp.*

—— Unemployment Board. *Report. Wellington, 1931. 43 pp.*

NORWAY.—Chefinspekøret for Fabrikktilsynet. *Årsberetninger fra arbeidsrådet og fabrikktilsynet, 1931.* [*Oslo, 1932?*] *82 pp., diagrams, illus.*

Annual report of the activities of works councils and factory inspection, including legislation, activities of factory inspectors, measures against industrial accidents and diseases, hours of labor of women and children, regulations concerning the works councils, violation of laws, etc. There is a brief résumé in French.

—— Statistiske Centralbyrå. *Statistisk årbok for Kongeriket Norge, 1932. Oslo, 1932. 269 pp. (In Norwegian and French.)*

Contains statistical information on social insurance, sickness, accident, unemployment, cost of living, cooperation, unemployment among members of trade-unions, activities of public employment offices, industrial disputes, arbitration, collective agreements, wages of agricultural workers, housing, etc.

POLAND.—Bureau of Statistics. *Concise statistical yearbook of Poland, 1932. Warsaw, 1932. 154 pp., map. (In English.)*

Contains statistical information on occupational distribution of the population, cooperative societies, prices of food, cost of living, employment during the period 1927–1931, unemployment, wages and salaries, productivity of labor in coal mines, industrial disputes, social insurance (unemployment, disability, old-age), etc.

—— Ministère du Travail et de l'Assistance sociale. *Aperçu sur l'inspection du travail en 1930. Warsaw, 1931. 54 pp.; pasters. (In French.)*

Annual report on labor inspection in Poland for 1930, including labor legislation, administrative machinery of labor inspection, protective legislation for women and young workers and for agricultural labor, industrial hygiene, industrial disputes, and statistics concerning the activities of labor inspectors.

QUEENSLAND (AUSTRALIA).—Registrar General's Office. *Statistics of the State of Queensland for the year 1930–31. Brisbane, 1931.* [*Various paging.*]

Includes data relating to Government relief, emigration and immigration, housing, and production.

SWITZERLAND.—Bundesamt für Industrie, Gewerbe und Arbeit. *Bericht über die heutigen Verhältnisse im Hausdienst in der Schweiz und Vorschläge für Sanierungs-massnahmen. Zurich, 1932. 104 pp.*

Report of a committee appointed in 1930 to study the reasons for the lack of trained female domestic servants and to make suggestions for a solution of the dfficulty.

—— Bureau Fédéral de Statistique. *Annuaire statistique de la Suisse, 1931. Berne, 1932. 404 pp., charts. (In French and German.)*

Contains statistical information on cooperative societies, activities of public employment offices, prices, sick funds, accident insurance, housing, etc., in Switzerland in 1931.

—— Caisse Nationale Suisse d'Assurance en Cas d'Accidents. *Rapport annuel et comptes pour l'exercice 1931.* [*Berne*], *1932. 55 pp., illus.*

The report of the Swiss National Accident Insurance Fund for the year 1931.

TANGANYIKA TERRITORY.—Labor Department. *Annual report, 1929. Dar Es Salaam, 1930. 34 pp., chart.*

—— —— *Annual report, 1930. Dar Es Salaam, 1931. 34 pp.*

UNION OF SOUTH AFRICA.—Department of Mines and Industries. *Annual report of the Government Mining Engineer for 1931. Pretoria, 1932.* [*Various paging.*] *Charts.*

Section VIII, on miners' phthisis, is reviewed in this issue of the Labor Review.

URUGUAY.—Dirección General de Estadística. *Anuario estadístico de la Republica oriental del Uruguay, 1929. Tomo XXXVIII, parte 6. Montevideo, 1932. 57 pp.*

Includes statistics of industrial accidents, industrial disputes (in Montevideo), and old-age pensions in Uruguay from 1925 to 1929, and placements by the employment section of the National Labor Office in 1929.

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Contains an international review of economic and social conditions, housing, employment, wages, cost of living, industrial disputes, public insurance, and labor legislation.

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This yearbook contains information in regard to the activities of the German Federation of Labor Unions, and includes data on employment, unemployment, social insurance (invalidity, old-age, and sickness), labor legislation, industrial hygiene, labor legislation, trade agreements, agreement wages, development of the labor unions, their educational activities, youth organizations of the labor unions, labor union press, building activities of the labor unions and their cooperative activities in other fields of business.

—— *Die wirtschaftlichen Funktionen der Sozialversicherung. Berlin, 1932. 136 pp.*

BABSON, ROGER W. *Washington and the depression, including the career of W. N. Doak. New York and London, Harper & Bros., 1932. 296 pp.*

An analysis of the current business depression, and of possible remedies, with special reference to the work of the Secretary of Labor and of the Department of Labor.

BITAN, ELIE. *Pour enrayer la crise rapidement et en éviter le retour. Paris, 96 rue de Clignancourt, [no date]. 30 pp.*

A discussion of the causes of the economic crisis and methods of combating it.

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Analytical review of public social insurance systems in Germany, including Federal subsidies thereto, with a critical examination of the system of financing the insurance.

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Defines the adult-guidance system, and explains its organization and working.

CLARK, FLORENCE E. *The printing trades and their workers. Scranton, Pa., International Textbook Co., 1932. 132 pp., illus.*

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Figures from the publication are given in this issue.

CROWDEN, G. P. *Muscular work; fatigue and recovery. London, Sir Isaac Pitman & Sons (Ltd.), 1932. 74 pp., diagrams.*

Three lectures given at the London School of Economics in 1931, the subjects covered being the study of muscular work in man, human efficiency for muscular work, and the influence of environment on the worker.

FERNEGG, RUDOLPH. *Handbuch des Arbeitsrechtes. Prague, Heinrich Mercy Sohn [no date]. 1053 pp.*

Text of Czechoslovak labor legislation from 1854 to March 27, 1931, with a special section on Slovakia and Carpathian Russia. The laws relate to trade agreements, works councils, union and assembly rights, labor protection, unemployment relief, industrial disputes, conciliation and arbitration, etc. The social insurance laws are not included.

HASTINGS, SOMERVILLE. *The people's health. London, Labor Party, 1932. 20 pp.*

This pamphlet is based on discussions by a group of persons particularly interested in public health problems and attempts to outline the present state of knowledge of what may be considered an ideal health service.

HISCOCK, IRA V. *Community health organization: A manual of administration and procedure for cities of 100,000, with suggested modifications for larger and smaller urban units. New York, Commonwealth Fund, 1932. 261 pp.*

HOUGH, ELEANOR M. *The cooperative movement in India—its relation to a sound national economy. London, P. S. King & Son (Ltd.), 1932. 340 pp.*

An account of the cooperative movement in India, describing the historical, geographical, social, and economic background. Analyzes the movement, showing its points of strength and of weakness, the possible remedies, etc. Contains an appendix giving detailed statistics of cooperative societies in the different Provinces.

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The purpose of this new publication is to provide opportunity for broader expression of results of and the experience gained in the conduct of movements and institutions for adult education and of the unhampered individual views of outstanding workers in the field covered.

JACOBS, WILLIAM P. *Problems of the cotton manufacturer in South Carolina. Jacobs & Co. Press, 1932. xviii, 193 pp., charts, illus.*

LINDE, H. *Lohntheorie und Lohnpolitik der Sozialdemokratie. Vienna, Verlag für Literatur und Politik, 1931. 79 pp.*

MANCHESTER, UNIVERSITY OF. Department of Economics and Commerce. Research Section. *Pamphlet No. 1: An inquiry into the employment of juveniles in Lancashire, by Allan Winterbottom. Manchester, 1932. 23 pp.*

Based on a study of all the children leaving school under the authority of the Lancashire County Council between August 1, 1930, and July 31, 1931, the report

stresses four points: (1) The complication of the labor problem by the wide diversity of conditions found within the industrial district of Lancashire, which is usually considered highly homogeneous; (2) The existence of numerous small areas in which the problem of unemployment for juveniles is exceptionally serious; (3) The almost complete dependence of many localities upon one already overcrowded industry, and the consequent need for the establishment of new industries; and (4) The need for comprehensive statistics covering all juveniles aged 14 to 16 years, collected at regular intervals.

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MATSUI, SHICHIRO. *The history of the silk industry in the United States. New York, Howes Publishing Co., 1930. 267 pp., charts.*

Includes information in regard to wage earners, working conditions, wages, labor relations, processes, and machinery development. One chapter is devoted to the silk industry in foreign countries.

MILES, G. H. *The problem of incentives in industry. London, Sir Isaac Pitman & Sons (Ltd.), 1932. 58 pp.*

Fear and financial incentives; nonfinancial incentives; and managerial incentives are the respective subjects of the three lectures brought together in this volume.

MINNESOTA, UNIVERSITY OF. Employment Stabilization Research Institute. *Bulletins, Volume 1, No. 5: The decline of employment in the 1930–31 depression in St. Paul, Minneapolis and Duluth, by Alvin H. Hansen, Dreng Bjornaraa, and Tillman M. Sogge. Minneapolis, 1932. 34 pp., charts.*

Presents data on the employment experience of 525 representative firms in the three principal Minnesota cities.

MONROE, DAY. *Chicago families—a study of unpublished census data. Chicago, University of Chicago Press, 1932. 344 pp. (University of Chicago, Science research committee, Social science studies No. XXII.)*

An analysis of the general characteristics, households, domicile status, size and composition, burden of child dependency, and gainful employment of over 23,000 families.

MORLEY, FELIX, Editor. *Aspects of the depression. Chicago, University of Chicago Press, 1932. 300 pp.*

A collection of radio talks, sponsored by the National Advisory Council on Radio in Education, delivered over a country-wide network of the National Broadcasting Co. from October 17, 1931, to May 21, 1932. Among these addresses were the following: Effects of depressions on employment and wages, by William M. Leiserson; wages in relation to economic recovery, by Leo Wolman; forward planning of public works to stabilize employment, by Otto T. Mallery; social insurance, by Paul H. Douglas; unemployment insurance, by John R. Commons; land utilization, by M. L. Wilson; and cooperation as a stabilizing force in agriculture, by Chris L. Christensen.

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Deals with the efficiency or rationalization movement from the human point of view, and includes chapters on labor and vocational guidance and training, physiology and psychology of labor, health protection for workers, and rationalization.

RUSSELL SAGE FOUNDATION. Library. *Bulletin No. 114: Immigrant groups in the United States. New York, 130 East Twenty-second Street, August, 1932. 4 pp.*

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SOCIAL SCIENCE RESEARCH COUNCIL. *Bulletin No. 22: International wage comparisons—a report of two international conferences and a critical review of available statistical data. New York, 230 Park Avenue, 1932. 262 pp.*

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Includes chapters on stabilizing employment, training foremen, employee relations, and union-management cooperation.

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The basic and essential facts of governmental social-insurance plans are set forth, together with an analysis of the arguments for and against such plans.

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WORLD CONFERENCE ON WORK FOR THE BLIND. *Proceedings, New York, April, 1931. New York, American Foundation for the Blind (Inc.), 1932. 558 pp.*

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